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Information Warfare

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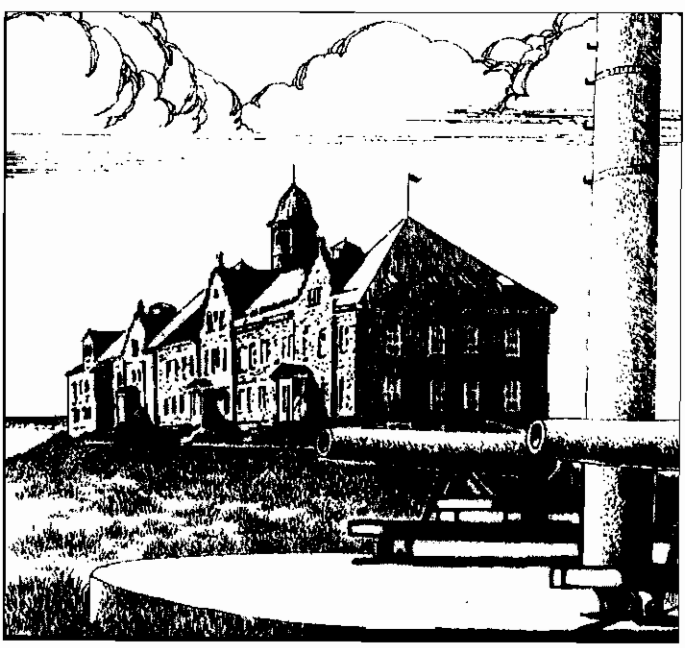

Naval War College
Newport, Rhode Island

* *

The factors that cause the Navy to change so slowly are all under human control. That is, the pace of change is a result of choices we have made, consciously or otherwise.

President's Forum

The Chief of Naval Operations, Admiral Jay Johnson, has stated that we have four Navies: the Navy of history; the Navy we are currently operating; the Navy being procured through the present budget process; and the Navy after Next. Our focus here at the Naval War College, and indeed our special operating domain, is the future—the Navy after Next. Admiral Johnson has rightly observed that we neglect any of these four navies at our peril.

The Navy of history is logically connected to the Navy after Next. If that connection is lost, we may draw the wrong conclusions from current observations. For example, many have said that any future Navy would necessarily take a long time to achieve, that anyone who wants to know what the Navy of 2015 might look like need only go to the piers at Norfolk or San Diego today. This perception is flawed. The factors that cause the Navy to change so slowly are all under human control. That is, the pace of change is a result of choices we have

made, consciously or otherwise. History shows that navies can change quickly. For example, shortly after the turn of the nineteenth century, Sir John Fisher, First Sea Lord of the Royal Navy, rendered his navy and all others obsolete when he produced HMS *Dreadnought* in the course of a year. Of course, it takes a long time to mature the requisite technologies, concepts, and underlying strategy, but that maturation is not what is holding us back now. Without a study of history we forget that though in 1935 the Kriegsmarine had no U-boats, by 1939 fifty-six of them were the scourge of the Atlantic. In 1935 there were no panzer divisions, but in 1939 they were in Poland. None of these examples is technologically insignificant. Perhaps most striking, the shape and mode of operation of the United States Navy was dramatically altered on one Sunday morning in December 1941.

Because of the power history can have in informing our decisions about the future, I will break from my usual practice of using this space for future focus and use it to consider history. Here are the reflections of Congressman Ike Skelton (D-Mo.) on the importance of the study of history to those serving in, and supporting, the armed forces. I am sure you will find his thoughts both enjoyable and useful.

* * *

Vice Admiral Cebrowski has commanded Fighter Squadron 41 and Carrier Air Wing 8, both embarked in USS *Nimitz* (CVN 68). He later commanded the assault ship USS *Guam* (LPH 9) and, during Operation DESERT STORM, the aircraft carrier USS *Midway* (CV 41). Following promotion to flag rank he became Commander, Carrier Group 6 and Commander, USS *America* Battle Group. In addition to combat deployments to Vietnam and the Persian Gulf, he has deployed in support of United Nations operations in Iraq, Somalia, and Bosnia. He has served with the U.S. Air Force; the staff of Commander in Chief, Atlantic Fleet; the staff of the Chief of Naval Operations, on four occasions; with the Joint Staff (as J6); and as Director, Navy Space, Information Warfare, and Command and Control (N6). Vice Admiral Cebrowski became the forty-seventh President of the Naval War College in July 1998.

Fireman Third Class
Ike Skelton, Sr., aboard the
USS Missouri *(BB 11), 1918*

Whispers of Warriors

The Importance of History to the Military Professional

Congressman Ike Skelton

When I was a boy, every now and then my father would let me wear his sailor's hat. It was a very special keepsake, navy blue, embroidered in gold thread, with the name of the ship he so proudly served, USS *Missouri,* boldly emblazoned on the front. It was always a special occasion for me to wear that hat. When I wore it, I felt an unusual connection to my father and the men with whom he served during World War I. It was as if whispers of warriors floated inside that hat—whispers of important lessons learned through experience in battles past.

Perhaps spurred by stories from my father and keepsakes such as his hat, I have maintained an abiding interest in the military and military history. In my capacity as the ranking Democrat on the House Armed Services Committee in Congress, I work very closely with the military. Congress has a constitutional duty to raise and support armies and to provide and maintain a navy. It is a grave responsibility. While authorizing and appropriating funds for the engines of war are important military roles of Congress, ensuring our airmen, Marines,

sailors, and soldiers are mentally prepared for the exigencies of war is a greater one. Congress must work with the armed forces to ensure the strategic flame burns bright, that the next generation of military leaders is capable and ready to assume the mantle of generalship in the traditions of General George C. Marshall and Admiral Chester W. Nimitz.

When diplomacy fails, the fates of nations rest in the minds and hands of their militaries. Paradoxically, the most grave course of action a nation can undertake must be accomplished by a group unable to practice regularly its profession. Sir William Francis Butler, the noted British soldier and author of the nineteenth century, said that "the nation that will insist on drawing a broad demarcation between the fighting man and the thinking man is liable to find its fighting done by fools and its thinking done by cowards." While armies, navies, and air forces can train, conduct exercises and war games, and shoot ordnance on instrumented ranges, for obvious reasons they cannot fight in the name of preparedness.

Why Study History? All the great commanders have benefited from a strong foundation in military history. Consider the words of a few of the masters of war:

> Military history, accompanied by sound criticism, is indeed the true school of war.
>
> —*Jomini*

> The study of military history lies at the foundation of all sound military conclusions and practice.
>
> —*Alfred Thayer Mahan*

> [History is] the most effective means of teaching war during peace.
>
> —*Helmuth von Moltke ("the Elder")*

> [T]he science of strategy is only to be acquired by experience and by studying the campaigns of the great captains. Gustavus Adolphus, Turenne, and Frederick, as well as Alexander, Hannibal, and Caesar, have all acted upon the same principles.
>
> —*Napoleon*

> Only the study of history is capable of giving those who have no experience of their own a clear picture of what I have just called the friction of the whole machine.
>
> —*Clausewitz*

When giants of warfare—the likes of Jomini, Mahan, the elder von Moltke, Napoleon, and Clausewitz—agree so universally on the importance of history to the military officer, one must take notice.

Their message is clear. Through the study of history, military officers can gain a semblance of experience in the art of war, even in the absence of fighting. Within the written histories of battles and wars spanning three millennia reside the experiences of the best and worst to practice the military arts in combat. Through history, the whispers of our forefathers are brought to life. They tell the tales of great nations, how they rose and why they fell. They share secrets of war, from the painful, gut-wrenching decisions of commanders ordering men into harm's way, to the less frenetic and more rarefied analysis of grand strategy. They provide guidance in the fighting arts, teaching tactics and strategy. They tell about leadership, the value of inspiration and courage, and warn of the follies of recklessness or excessive caution. A student of military history can accumulate over three thousand years of fighting experience at the price of time spent reading and analyzing the whispers of warriors past.

There are four practical reasons for the military professional to master military history—to learn 1) lessons in fighting, 2) lessons in generalship, 3) lessons in innovation, and 4) the lessons of lessons learned. Beginning with lessons in fighting, each of these topics will be addressed in turn.

Lessons in Fighting. From the whispers of warriors, students of military history can gain an experiential foundation at all three levels of war—tactical, operational, and strategic. Junior officers should focus on tactics. After tactics have been mastered and as officers rise in seniority, they should also study the operational and strategic levels of war.

Tactical. FM 7-8, the Army's field manual for *Infantry Rifle Platoons and Squads,* states: "Mission tactics require that leaders learn how to think rather than what to think. It recognizes that the subordinate is

often the only person at the point of decision who can make an informed decision."[1]

Tactics are based on doctrine; reinforced through repetition during training, staff rides, and exercises; and are ultimately proven in combat. Knowledge of doctrine and rehearsal of tactics are essential elements in learning tactics. However, they still fall short in teaching a leader how to think in the face of the friction and fog of war, against an enemy intent on killing him, who comes to the battlefield with an entirely different set of weaponry, tactics, techniques and procedures, cultural motivation, and objectives. While still only a substitute for combat experience, through history a leader can learn the intricacies of how successful officers prevailed tactically against an adversary or, conversely, why they failed. More importantly, a reader of history can learn the background behind tactics and understand their development, allowing him to execute them in the proper context or innovate in the face of dynamic change. In short, a reader of military history learns how to think about tactics rather than what to think.

General George S. Patton, one of America's great tacticians, was an avid reader of history. He studied tactics intensely, in concert with learning everything he could of potential adversaries. As early as 1909, while still a cadet at the Military Academy, Patton wrote in his personal notebook:

> In order for a man to become a great soldier . . . it is necessary for him to be so thoroughly conversant with all sorts of military possibilities that when ever an occasion arises he has at hand without effort on his part a parallel. To attain this end . . . it is necessary . . . to read military history in its earliest and hence crudest form and to follow it down in natural sequence permitting his mind to grow with his subject until he can grasp without effort the most abstruse question of the science of war because he is already permeated with all its elements.[2]

By the time World War II erupted, Patton was tactically primed and ready. As Sun Tzu instructed—"Know the enemy and know yourself; in a hundred battles you will never be in peril"—Patton studied his adversaries and their tactics as a matter of course. He maintained his study of the enemy during the conduct of campaigns.

The 1944 breakout from Normandy illustrates this point. Bad weather threatened to postpone an armywide general offensive against the Saar-Moselle triangle. When the time for the "go, no-go" decision came, Patton stuck to his order to attack. However, he fretted over his decision. In his diary he wrote: "Woke up at 0300 and it was raining like hell. I actually got nervous and got up and read Rommel's book, *Infantry Attacks*. It was most helpful, as he described all the rains he had in September, 1914, and also the fact that, in spite of the heavy rains, the Germans got along."[3] After learning that the Germans had managed in equally dreadful weather during World War I, Patton was revitalized.

Tactical lessons abound in military history. A study of William Fetterman's massacre in 1866 near Lodge Trail Ridge in Wyoming yields the fundamentals of the ambush from its greatest practitioners, the American Indians. The 1763 battle of Bushy Run, pitting American rangers and British troops against the Indians, provides not only a daring example of how to neutralize an ambush but also of how a complete envelopment and certain rout can be turned into a victory via a bold counterattack. The Revolutionary War battle at Cowpens in 1781 teaches a tactical application of the layered defense, coupled with the importance of matching the tactic to the terrain and capabilities of the troops. The VII Corps's textbook flanking of the Iraqi defense in DESERT STORM, reminiscent of Stonewall Jackson's smashing success against Joseph Hooker's right flank at Chancellorsville in 1863, provides students of military tactics with proven examples of the flanking maneuver. Those who study and analyze such historical examples gain vicarious battlefield experience and also learn how to think about tactics.[4]

Operational. In addition to learning how to think about operations, the student of military history can learn warfare principles and enduring warfare themes through study at the operational and strategic levels of war. As Sir A. P. Wavell, British field marshal and viceroy of India, said in his lectures to officers, "The real way to get value out of the study of military history is to take particular situations, and as far as possible, to get inside the skin of a man who made a decision, realize the conditions in which the decision was made, and then see in what way you could have improved on it."

General Douglas MacArthur understood operational art and also the principle of maneuver. His September 15, 1950, landing at

Inchon—deep behind North Korean lines, culminating in a hammer-and-anvil decimation of communist forces between Seoul and Pusan—stands as one of the most brilliant and daring operations in the annals of warfare.[5]

MacArthur had firsthand combat experience to draw from in crafting the Inchon-Seoul campaign. He had orchestrated eighty-seven amphibious assaults in the Pacific campaign against the Japanese during World War II. MacArthur, however, also drew from history. As Army Chief of Staff in 1935, he advised that the military student "extends his analytic interest to the dust-buried accounts of wars long past as well as those still reeking with the scent of battle" to "bring to light those fundamental principles, and their combinations and applications which, in the past, have been productive of success."

MacArthur operationalized the words of Karl von Clausewitz, written 118 years earlier: "A swift and vigorous transition to attack—the flashing sword of vengeance—is the most brilliant point of the defensive."

Strategic. Strategy is the domain of top-level decision makers, where military operations join with policy, politics, and national objectives. It requires a comprehensive understanding of national objectives and all means of national power—military, diplomatic, and economic—as the precursor to linking ends with means. Military history provides lessons in applied strategy. Strategies employed in the conduct of war can be evaluated in terms of actual outcomes.

America's most renowned naval thinker, Alfred Thayer Mahan, said about strategy: "As in a building, which, however fair and beautiful the superstructure, is radically marred and imperfect if the foundation be insecure—so, if the strategy be wrong, the skill of the general on the battlefield, the valor of the soldier, the brilliancy of victory, however otherwise decisive, fail of their effect."

Mahan's words prophetically describe Germany's failure in World War II against Russia. Germany's generals performed brilliantly. Her soldiers fought bravely and with great skill. Through blitzkrieg tactics, the Germans won many decisive victories in battle. Yet, all came to naught for an ill-conceived strategy.

The roots of Germany's strategic problems can be traced back to the interwar years, when, paradoxically, they began a great military renaissance. After World War I, General von Seeckt, chief of the German army command from 1920 to 1926, began a reformation of the

German army, intent on correcting many of its World War I deficiencies. He began with training. He pushed the Army to adopt maneuver tactics, setting the stage for blitzkrieg. He built an effective, independent-thinking noncommissioned officer corps. Most importantly, he transformed officer training into officer education. Officers learned the specifics of their branch, including tactics and weaponry. They also studied subjects common to all branches, as well as military history. Many scholars, however, have criticized the otherwise stellar German officer training and education program for its lack of attention to grand strategy, politics, and economics.[6] The Wehrmacht felt that strategy was beyond its purview—instead, it focused on operational art.

The decades of dedication to the study of tactics, operations, and military history nonetheless paid off when World War II erupted. Germany fielded an army with officers who were masters of tactics and operations. Not surprisingly, they prevailed at the tactical and operational levels of war. However, their strategic prowess was not equal to their expertise in operational art. They left strategic decisions up to their commander in chief, Adolf Hitler.

By the time the Germans invaded Russia in June of 1941, Hitler was totally enamored with the blitzkrieg. After decisive blitzkrieg victories over Poland and France, he was convinced that the Red Army would quickly fold its tent once Operation BARBAROSSA began. But Hitler failed to grasp the strategic differences between a war in Europe and a war in Russia. Russia was different—bitter cold in the winter, opening to the east in a widening expanse that had swallowed the likes of Napoleon. Russia would once again trade space for time, which, coupled with her numerical superiority and fierce fighting spirit in defense of her homeland, would ground the lightning attack. Even with blitzkrieg tactics and great valor from its soldiers, the Wehrmacht failed to win Russia. Hitler would have done better to listen to the warning whispers of Napoleon.

A student of strategic history learns why Pericles' defensive strategy failed against the Spartans. He better understands the failure of the Confederate strategy to demoralize the North and entice European intervention against General Winfield Scott's Anaconda strategy.[7] The military scholar learns the conditions that necessitated a "Germany First" strategy during World War II and to appreciate the economic and diplomatic sides of war, as evidenced by the success of

the containment strategy used against the Soviet Union during the Cold War.

Lessons in Generalship. Generalship refers to the military skill of a high commander. In addition to knowledge of strategy, operations, and tactics, great generalship requires personal courage in the face of danger, the ability to inspire and move armies and fleets, and the ability to weigh risks and remain clearheaded in the face of chaos.[8] Military history provides a wealth of case studies in generalship.

Leadership. While the study of the campaigns of the great captains will yield lessons in fighting, the study of the great captains themselves can augment a military officer's knowledge of leadership. Their courage in the face of fire, their inspirational exhortations, their bold and audacious actions, forever stand as leadership examples, no matter the era or service affiliation.

The leadership styles of the great generals and admirals have been as different as their names and personalities. From soft-spoken to loud and booming, from conceptual thinkers to detailed planners, leaders have varied greatly in character and leadership styles. Although their styles have defied condensation into a universal set of personality traits, students of military history can hone their own styles from study of great captains with styles similar to their own. From experience forged in battle, their counsel on leadership is as important a part of their legacy as their results in battle.

Superior leadership and martial wisdom alone do not complete the skill required for generalship. In combination with leadership, pervasive knowledge of strategy and tactics, and the trust and confidence of subordinates, the great captains also knew how to take appropriate risks. The study of military history provides case studies in risk calculation in which the gravest of stakes were on the line. As the great humanist Erasmus said, "Fortune favors the audacious." This statement applies to all of the great captains. Contrarily, hardship curses the reckless and overly cautious.

The Audacious. Napoleon described Hannibal as "the most audacious of all, probably the most stunning, so hardy, so sure, so great in all things." Hannibal's crossing of the Alps to attack the Romans in Italy, for which he is principally known, stands as perhaps the most audacious act in all of military history. The trek was not without its costs. Hannibal lost almost half his original force of forty-six thousand men and all but a few of the thirty-eight elephants he started

with. Nonetheless, Hannibal's crossing of the Alps also had its payoffs. Hannibal achieved a string of military successes against superior odds, culminating in one of the most storied battles of all time—the battle of Cannae.

Two Roman double-consular armies met Hannibal on open ground near Cannae. The Romans outnumbered Hannibal's forces and looked to outflank Hannibal on both sides. Hannibal aligned his troops in a crescent formation, with the wings curved away from the Roman lines. The Romans attacked the Carthaginian infantry center, which gave way before them, allowing the Roman infantry to encircle them. The Roman infantry, sensing victory, closed in for the kill. On the wings, however, the Carthaginian cavalry had defeated the Roman cavalry and maneuvered to turn the crescent formation inside out to envelop the Roman infantry. Hannibal's army slaughtered the Roman armies. Hannibal had audaciously taken on a superior force and defeated it with a double-envelopment maneuver that is still studied today.

The Cautious. General "Fighting Joe" Hooker at Chancellorsville serves as an example of how excessive caution can turn an otherwise brilliant commander into a beaten man. In the spring of 1863, the Confederates held twenty-five miles of unbroken, fortified lines in Virginia, from Port Royal to Banks Ford. Robert E. Lee still held Marye's Heights in Fredericksburg, scene of Ambrose Burnside's earlier thrashing. Hooker realized that in spite of his two-to-one superiority over the Army of Northern Virginia, another attack on Fredericksburg would end with the same devastating results. Instead, Hooker planned to flank Lee's army by an upstream crossing of the Rappahannock and Rapidan Rivers with three corps, while holding Lee in place with forty thousand men at Fredericksburg. The plan proceeded smoothly until Union forces began to encounter resistance leaving the Wilderness toward Fredericksburg. Thanks to J. E. B. Stuart's cavalry probes, Lee had caught wind of Hooker's plan and sent fifty thousand men to take on Hooker. Lee, an audacious general in his own right, dangerously split his force again, sending Stonewall Jackson's corps to flank Hooker's right side. With Lee's forces split, Hooker had an opportunity to counterattack and crush the Confederate forces. Instead, Hooker lost his nerve and cautiously ordered a withdrawal to Chancellorsville. With

that order, Hooker handed over the reins of initiative to Lee, snatching defeat from the jaws of victory.

The Reckless. Everyone knows the story of Custer's last stand and his headlong reckless rush after the Indians. Another, lesser-known Indian battle, the battle of Blue Licks, also serves to highlight the difference between reckless and audacious action. In August 1782, a group of 182 Kentucky militiamen, led by Colonel John Todd and including members of the Boone family, was in hot pursuit of Indians who had attacked an American fort.[9] One officer, Major Hugh McGary, advised Colonel Todd to wait for reinforcements. Todd rebuked McGary for his timidity, a scorn that did not sit well with the hotheaded company commander.

During the pursuit, Daniel Boone noticed the Indians were concealing their numbers by sharing tracks, yet making the trail very easy to follow. Boone smelled an ambush by a force he estimated at five hundred Indians. The rangers caught up to the Indians at the Blue Licks. Several Indian warriors showed themselves at the top of the rocky hilltop. Boone knew the terrain. At the top of the hilltop were wooded ravines that could shield an Indian force from view. He advised breaking off the pursuit. McGary, still stinging from Todd's previous insult, called Boone a coward. He leapt onto his horse, yelling "Them that ain't cowards follow me," and recklessly charged into the river toward the Indians. Colonel Todd and the rest of the rangers followed. The Indians were indeed waiting in ambush, just as Boone feared. The rangers suffered a devastating defeat, in which Daniel Boone lost his son, Israel.[10] Rather than provide inspiration at the decisive moment, McGary had recklessly incited a charge outside of the proper context.

Inspiration. Military history smiles most brightly on its most brilliant generals who were also monuments to inspiration. American military history has many proud examples of inspirational leadership. John Paul Jones revitalized his badly beaten crew in the battle between the HMS *Serapis* and the *Bon Homme Richard* with his "I have not yet begun to fight" reply to the British call for surrender. Major General Anthony C. McAuliffe's simple yet defiant reply of "Nuts!" to the German demand for surrender at Bastogne steeled not only the hearts of the defending 101st Airborne and 10th Armored Divisions but also the rest of the American army in northwest Europe.[11] Inspirational words coupled with courage, and the strong will of a

great captain, can turn the tide of battle. They can move men to victory against superior odds, just as Lord Horatio Nelson's signal that "England expects that every man will do his duty" did for his fleet on October 21, 1805, at the battle of Trafalgar.

Study of the great captains yields the context and timing of tide-turning remarks and shows the power of inspiration through the force of their results. While few officers will ever find themselves in situations like those of Jones off Flamborough Head, McAuliffe in Bastogne, or Nelson at Trafalgar—with fewer still the headiness to articulate such elegant, fiery prose in the midst of carnage—strong-willed officers must still be able to buttress the fighting spirit of their troops and move them to action. Inspiration can mean the difference between victory and defeat.

Inspiration can also result from deed and attitude rather than words. In Lord Moran's *The Anatomy of Courage,* Surgeon Commander McDowell provides a compelling account of inspirational leadership, while also noting its personal toll on the leader:

> I saw the Captain of a ship drinking a cup of tea on the bridge in the course of dive-bombing attacks that had gone on all day. While he was drinking the lookout reported "Aircraft on the starboard bow, sir." He did not even look up. At "Aircraft diving, sir," the Captain glanced up only. "Bomb released, sir," and the Captain gave the order "Hard a-starboard," and went on drinking his tea until the bomb hit the water nearby. The reaction to this episode was a kind of hero-worship on the part of everyone who saw it. When the bombing had ceased the Captain went down to his cabin and when he was alone he wept.

Courage. Generalship requires courage—the strength to persevere in the face of fear. Of all the military virtues, it is the most prized and highly rewarded. No man knows how he will react to the stresses of combat until actually tested in battle. More likely than not, he will grapple with his own fear of death, while trying his best to present a mask of courage. History whispers the accounts of the great captains, who sometimes shared the fact that they too had to overcome personal fear in the face of combat. In a March 25, 1943, letter to his wife, Beatrice, Patton admitted, "I still get scared under fire. I guess I will never get used to it, but I still poke along." Untested warriors

can take solace in the fact that fear is normal, a precondition to courageous action.

Commanders must also have the moral courage to do what is right in spite of popular sentiment or even orders. The whispers of the 109 civilians massacred at the Vietnamese village of My Lai at the orders of Lieutenant William Calley on March 16, 1968, still remind us of a higher duty always to do what is right.

Lessons in Innovation. We must stay tuned to the whispers of history—that they not be drowned out by the crescendo of the present. As Sir Julian Corbett noted, "The value of history in the art of war is not only to elucidate the resemblance of past and present, but also their essential differences." The development of the German blitzkrieg between World War I and World War II illustrates Corbett's insight.

World War I defensive victories in battles such as Verdun, as opposed to the slaughter of French soldiers in offensive operations, led the French to believe that an impenetrable Maginot Line would protect the French from future aggression. The "lesson learned" by the French was right, that in World War I the defense dominated. The Germans learned the same lesson. But, whereas the French adopted the lesson, the Germans adapted to it.

At the close of World War I, the Germans had some success with their elite "stormtroop" units in overcoming the stalemate of static trench warfare. They studied stormtroop tactics, looking for ways to improve them. While the stormtroop units were able to take advantage of surprise and speed to overcome enemy defensive positions, they still were short of the mobility required to take advantage of their gains. During the interwar years following World War I, the Germans developed the blitzkrieg concept, a mobile form of warfare that combined close air support with tanks and mechanized infantry, to shift the advantage back to the offensive.

Lessons in Lessons Learned. History teaches that every war is unique. "Lessons learned" typically focus on what worked—and what did not—in the last conflict. History is replete with examples of militaries staying with successful technology and doctrine from previous conflicts only to suffer disastrous results in the next.

History also teaches that there are no silver bullets in warfare. Multiple means are necessary to address a spectrum of conflict that continues to expand with each evolution and revolution in warfare.

The debate over the utility of the atomic bomb after the bombings at Hiroshima and Nagasaki is a case in point. After the surrender of the Japanese in World War II, air extremists proclaimed that the atomic bomb rendered all other weapons and forces obsolete.[12] They argued that the dropping of the bomb at Hiroshima and Nagasaki heralded the nuclear age, in which traditional forms of power projection—to include the Army, Navy, and Marines—were relics of the past. The atomic bomb could do it all—the nation merely needed to invest in bombers and A-bombs. An acrimonious debate culminated in 1949 with a special House Armed Services Committee investigation.[13]

The committee report debunked the myth of the "one-weapon, easy-war concept"; it was further underscored when the North Koreans attacked across the thirty-eighth parallel on June 25, 1950. Strategic bombing with atomic weapons was simply not an option. The Korean War was a bloody conflict in which ground forces, supported by air and sea power, were the final arbiters.

Conclusion. Serious study of history is essential to the development of exceptional military professionals. Napoleon, on his way to exile at Saint Helena, probably summed it up best in referring to his own son's education: "My son should read and meditate often about history; the only true philosophy. And he should read and think about the great captains. This is the only way to learn about war."

On a personal note, I still have my father's hat. I no longer wear it; even so, I know the whispers of the past still reside within it. I remember their lessons. My father's hat reminds me. . . .

Notes

1. U.S. Army Dept., *Infantry Rifle Platoon and Squad,* Field Manual 7-8 (Washington, D.C.: 22 April 1992), chap. 2, "Operations."

2. Martin Blumenson, *Patton: The Man behind the Legend, 1885–1945* (New York: William Morrow, 1985).

3. Martin Blumenson, *The Patton Papers, 1940–1945* (New York: Da Capo, 1996).

4. To find out more about these battles, the following readings are recommended: Roy E. Appleman, "The Fetterman Fight," in *Great Western Indian Fights,* ed. Potomac Corral of the Westerners (Lincoln: Univ. of Nebraska Press, 1960, repr. 1966), chap. 10; Mark M. Boatner, *Encyclopedia of the American Revolution* (New York: David McKay, 1966); Thomas Fleming, "The Cowpens," *Military History Quarterly,* Summer 1989, pp. 56–67; Victor Davis Hanson, "Cannae," *Military History Quarterly,* Summer 1990, pp. 60–5; Alberto Bin, Richard Hill, and Archer Jones, *Desert Storm: A Forgotten War* (Westport, Conn.: Praeger, 1998); and Stephen W. Sears, *Chancellorsville* (Boston: Houghton Mifflin, 1996).

5. For more on the Korean War, see T. R. Fehrenbach, *This Kind of War: A Study in Unpreparedness* (Washington, D.C.: Brassey's, 1998).

6. James S. Corum, *The Roots of Blitzkrieg: Hans von Seeckt and German Military Reform* (Lawrence: Univ. Press of Kansas, 1992), pp. 75–96.

7. Allan R. Millett and Peter Maslowski, *For the Common Defense: A Military History of the United States of America* (New York: Free Press, 1984), p. 161.

8. Napoleon advised that "the first quality for a commander in chief is a cool head, which receives a correct impression of things. He should not allow himself to be confused by either good or bad news. The impressions which he receives successively or simultaneously in the course of a day should classify themselves in his mind in such a way as to occupy the place which they merit, for reason and judgment are the result of the comparison of various impressions taken into consideration. There are men who, by their physical and moral make-up, create for themselves a complete picture built upon a single detail. Whatever knowledge, intelligence, courage and other good qualities such men may have, nature has not marked them for command of armies or for direction of great operations of war."

9. Isaac Newton Skelton III and Earl Franklin Skelton, *Ike, This Is You* (Washington, D.C.: n.p., 1995), pp. 132–41.

10. The author's great-great-great grandfather, Squire Boone, was wounded in the thigh during the battle.

11. S. L. A. Marshall, *Bastogne* (Washington, D.C.: Infantry Journal Press, 1946).

12. Bertram Vogal, "A Reply to the Extremists," U.S. Naval Institute *Proceedings*, May 1947, pp. 545–7.

13. J. D. Hittle [Lt. Col., USMC], "Korea: Back to the Facts of Life," U.S. Naval Institute *Proceedings*, December 1950, pp. 1289–97.

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Whom the Gods Would Destroy

An Information Warfare Alternative for Deterrence and Compellence

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SINCE THE END OF THE COLD WAR, the threat from weapons of mass destruction (WMD) has expanded beyond the massive arsenal of the former Soviet Union to many nations who are possessors—declared and undeclared—of nuclear, biological, or chemical weapons and the means to deliver them, or are attempting to acquire them. The United States therefore requires the ability to deter these smaller WMD-owning adversaries and, when necessary, to compel them to comply with its will or that of the international community. However, as has been widely noted, the utility and credibility of the U.S. nuclear arsenal for these ends are growing smaller, due to the success of arms control and public abhorrence of the nuclear instrument. Therefore, an alternative strategy is required, one that provides a responsive intermediate step on the escalation ladder.

Information warfare (IW) can provide that alternative. Like nuclear weapons, information warfare techniques can, at least theoretically, punish an adversary by striking speedily at his "centers of gravity"—leadership, command and control, national infrastructure, or industry—without defeating conventional forces in the field. It provides an alternative that the public is likely to be more willing to accept than a nuclear response to WMD use by a small power. It also provides a proportionate response to hostile attacks against the U.S. information infrastructure.

The military community uses a variety of terms to describe relationships between warfare, information, and information technology.[1] Among them are "knowledge-based warfare" and "network-centric warfare," which imply the networking and exploitation of friendly

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communications, computers, intelligence, reconnaissance, and surveillance systems to maximize the effectiveness of traditional military arms.[2] The Department of Defense uses the terms "command and control warfare" and "information operations" in reference to the employment of psychological operations, electronic warfare, operations security, military deception, and physical destruction to strike command and control systems and affect the perceptions of hostile nations.[3] In this article, "information warfare" means specifically the use of computer network attacks and electronic warfare techniques against the military systems and, especially, the national information infrastructure of an antagonist.

The Proliferation Environment

The strategic environment that the United States faces at the turn of the millennium resembles that of the years of President Dwight D. Eisenhower's "New Look," before the Soviet Union exploded its first hydrogen bomb and developed an intercontinental missile. The nation is once more enjoying economic expansion; it is again in a position of military dominance, though this time through its conventional capability rather than its nuclear might. As in that period, there are few direct threats to the U.S. homeland. The United States of the 1950s faced international challenges in Korea and Indochina; the threats today are once more on the periphery.

As in the 1950s, when opponents on the periphery employed unconventional warfare to "end run" U.S. nuclear superiority, this nation's nuclear and conventional military capabilities are confronted

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today by an "asymmetrical" threat. Today, the proliferation of weapons of mass destruction increases the dangers and difficulties of the international arena. The number of nations that possess or are aggressively attempting to develop these weapons and ballistic missile systems to deliver them is expanding. James Woolsey, former Director of Central Intelligence, estimated in 1995 that twenty nations had or were developing WMD and delivery means. Fifteen nations already had ballistic missiles, and sixty-six possessed cruise missiles.[4]

Whom the gods would destroy they first make mad.

—Euripides

Since that time, India and Pakistan have openly demonstrated nuclear weapons capabilities. North Korea is estimated to have plutonium sufficient to build one or two nuclear weapons.[5] The U.S. homeland is expected to face additional ICBM threats from North Korea, Iran, and Iraq in the next fifteen years.[6] Of even higher probability is the launch of short and medium-range ballistic or cruise missiles at U.S. or allied military and civilian targets. Nonmissile delivery means is the most likely of all, as it is the easiest to achieve and avoids direct association with the perpetrator or sponsor.[7]

These technologies are spreading to smaller, radical, rogue states. Dr. Barry Schneider, in a coinage worthy of Ian Fleming, has christened these states "NASTIs": nuclear/biological/chemical-arming sponsors of terrorism and intervention. Iraq, Iran, and North Korea rank as charter members of this dubious club, while Libya, Cuba, and Syria are striving to become NASTI members.[8]

Iran uses its formal adherence to the Non-Proliferation Treaty as a camouflage under which to gain access to key technologies for its nuclear weapons program. Iran is actively improving its civilian nuclear energy program and cooperating with Russian and Chinese agencies to develop facilities that will both complete the nuclear fuel cycle and support weapon materials production.[9] It is expanding its chemical weapons program, though it signed the Chemical Weapons Convention; it has hundreds of tons of choking and blister agents in stock, and it is in the process of "weaponizing" its biological warfare research. In an example of the closeness of the NASTI fraternity, Iran

has been able to buy Scud-C and No Dong-1 ballistic missiles from North Korea.[10]

As for Iraq, during the Gulf War it prepared Scud warheads containing chemical and biological agents for launching against Israel and Saudi Arabia, and it embarked on a crash effort to produce one or two nuclear warheads. Although its program was damaged in the war, Iraq preserved critical elements, as well as the expertise to re-create the rest. The CIA considers it likely that Iraq resumed its WMD programs after the air and cruise-missile strikes of Operation DESERT FOX in December 1998.[11] In fact, it has already acquired missile components in violation of UN sanctions. Of particular concern are recent revelations about the extent of the Iraqi anthrax program.[12]

Libya's budding WMD program also bears watching. The Libyans have a strong chemical weapons program, which is creating mustard gas and nerve gas. Their biological warfare and nuclear weapons are still in the research and development phase, but they are actively recruiting Russian scientists to speed their efforts. North Korea has provided Libya's program a boost by selling Scud and No Dong missiles. Particularly disturbing has been Libya's willingness to use these weapons, firing missiles at the island of Lampedusa and employing chemical weapons against Chad.[13]

The NASTIs will pose a narrowly focused nuclear threat, characterized by small, fission-type arsenals. These weapons will be able to hit troop concentrations, contaminating large areas with fallout, or to strike urban areas, causing mass casualties and terror. However, such weapons will be unable to threaten the American homeland for the foreseeable future: the missiles lack intercontinental range, and their nuclear weapons are too valuable to entrust to individuals to smuggle them in. Thus, the most likely uses for these weapons would be regional attacks to shape crises.[14]

The spread of missile technology multiplies the severity of the WMD threat to the interests, at least, of the United States. Missiles have a high probability of penetration, given the thinness of ballistic missile defenses. They can be fired at any time and in all weather. They can attack strategic targets in an adversary's rear areas, even if launched from the attacker's sovereign territory, where they are difficult to counterattack. Because of their short flight and warning

times, they are particularly effective as terror weapons against civilian populations.[15]

WMD arsenals could create significant roadblocks to U.S. efforts to protect friends and safeguard regional interests. First, as Dean Wilkening and Kenneth Watman suggest, an adversary could employ these weapons to impede U.S. intervention in a crisis by interfering with deployments or attacking rear assembly areas. Second, as Robert Joseph argues, a rogue state could inflict casualties on U.S. servicemen or civilians of host nations in an attempt to sway American public opinion. Third, as Barry Schneider observes, the WMD-proliferating nation could use its arsenal for regional influence. Many nations have only one or two urban concentrations, making them effectively "one-bomb targets." A state with even a small arsenal can threaten such countries with national extinction; it might do so to intimidate U.S. allies, to fracture coalition building, or to compel neighbors to follow its lead. Last, as Schneider further notes, a regime confronted with defeat could use weapons of mass destruction as bargaining levers to preserve itself in a postwar settlement. In general, WMD arsenals allow outlaw nations to pursue asymmetric strategies against the United States.[16]

U.S. Objectives and Constraints in a Proliferation World

If the United States is to cope with this environment of WMD proliferation, it must be clear about its objectives. The primary goal is to remain able to pursue vital international interests in a world pervaded by weapons of mass destruction. This requires deterring rogue states from using such weapons against U.S. interests or partners. This deterrence, if successful, should reduce the value of acquiring WMD, by making them unusable for obtaining political goals.

As the United States continues nuclear arms reductions with the Russian Federation and refuses to modernize its arsenal, its overall capability in that area will decline. In any case, threats to use nuclear weapons could backfire, spurring opponents to acquire their own or to ally themselves with nuclear powers. The United States confronts international norms of nonuse that it helped to create and wants to preserve. Some would interpret an actual nuclear attack as a violation of the Non-Proliferation Treaty, which has joined the body of international law. An energetic nuclear deterrent posture, let alone an

actual use of nuclear weapons, undoubtedly would lead to a domestic backlash, as well as international condemnation. To gauge the probable domestic response, consider the reactions during the Persian Gulf War to the Al Firdos bunker bombing or the "highway of death"—and multiply it. The American public abhors both nuclear weapons and high casualties, even among enemies.[17]

Beyond the policy constraints, practical constraints limit the utility of nuclear weapons for regional deterrence. MAD (mutual assured destruction) does not apply. As Philip Ritcheson argues, it is not mutual, because no regional power could hurt the United States as much as the United States could hurt it. Also, it is not assured: a U.S. threat to strike in retaliation would not be credible, because it would cause damage disproportionate to anything that could have been inflicted on the United States.[18]

Situational constraints also work against a U.S. regional nuclear deterrent. These constraints stem from differences between how the United States and a regional nuclear opponent view the risks. U.S. interests in regional contexts are typically peripheral; the regional player may be defending what it considers vital, bedrock values, in or near its homeland.[19]

A Strategy for Deterring the NASTIs

Given the environment and constraints of a proliferated world, the United States needs a new deterrence vehicle. The ideal instrument would be able to inflict more rapid and severe punishment than can conventional weapons but without the opprobrium that adheres to nuclear weapons. Facing an increased importance of nonstate actors and transnational organizations in the international system, such an instrument would have to be able to strike against such actors, again without the undesirable collateral effects of nuclear weapons.

It will be necessary, in addition, to modify the declaratory and practical elements of strategy to reflect both the wider range of threats to be deterred and the broader range of options for response. Current declaratory strategy is weak and vague. During the Gulf War, the United States used what Secretary of State James Baker called "calculated ambiguity" to dissuade the Iraqis from using their WMD arsenal against coalition forces. This perspective reflected President George Bush's private decision not to respond with

nuclear weapons even if the Iraqis used chemical weapons against U.S. forces—but to threaten publicly that he would. U.S. officials believed that this strategy worked and used it again during the winter 1998 confrontation over UN inspections of Iraq's WMD capability.

The NASTIs will pose a narrowly focused nuclear threat, characterized by small, fission-type arsenals. . . . [T]he most likely uses for these weapons would be regional attacks to shape crises.

State Department spokesman James Rubin declared, "We do not rule out in advance any capability available to us."[20] In March 1998, Secretary of Defense William S. Cohen was even more specific, proclaiming, "We've made it very clear to Iraq and to the rest of the world that if you should ever even contemplate using weapons of mass destruction—chemical, biological, any other type—against our forces, we will deliver a response that's overwhelming and devastating."[21]

The problem with making such threats is the ruin that would overtake U.S. deterrent posture if an adversary called the bluff and the administration was forced to recognize the mismatch between its capability, its policy, and its deterrent proclamations. A strong, credible, and more realistic declaratory stance might be: "Use of weapons of mass destruction against the United States, its infrastructure, forces, or allies will result in unrestrained responses at places and with methods of our choosing."

In any deterrence force employment posture, the idea of punishment is central. In the view of Thomas C. Schelling, deterrence can rely on the recognition that "military force can be used to hurt. . . . The power to hurt is bargaining power."[22] The only rational purpose for such pain is to influence enemy decisions, to compel certain actions. Causing pain tends to make the opponent act to avoid it; in international relations, pain or force is threatened in order to make an adversary comply. The deterrer needs to know what the enemy values, while the adversary needs to know what action would trigger or forestall force.[23]

Punishment is versatile. It can be used both for deterrence and for compellence—the difference is timing. While deterrence threatens punishment if the enemy acts in an undesired manner, compellence

threatens punishment until the enemy acts in a desired manner. Both cases represent a bargaining process in which the medium of exchange is pain and endurance. Nuclear weapons change the nature of deterrence by enhancing the ability to punish to a point at which, as Schelling observes, "victory is no longer a prerequisite for hurting the enemy." Particularly when mated to ballistic missiles, nuclear weapons can reach the enemy homeland and inflict punishment even if the enemy's armies in the field are intact. This capability also increases the speed of conflict, which enhances their punishment impact but also increases pressure on one's own decision makers.[24]

Even a pragmatic declaratory posture, then, can succeed only if it is supported in practice by an employment policy that provides realistic options for responding to WMD attacks. Information warfare can provide such options. IW techniques act rapidly and can inflict punishment on an enemy homeland; accordingly, they may be useful for certain deterrence applications. Information warfare, as one of the "means of our choosing" in our proposed deterrence posture, can maintain escalation dominance. That is, it can widen the war in ways the enemy cannot match, inflicting damage that is unacceptable to him but not to the international community (as would be the case with nuclear retaliation). A conventional response may be insufficiently persuasive; IW's ability to act directly against vital elements may make it more effective.[25] In the view of authors John Arquilla and David Ronfeldt, "An information offensive aimed at an enemy might seek to deter and dissuade a belligerent society without having to destroy its armed forces. In this, strategic information warfare would resemble prior systems, from strategic bombing to counter-value nuclear targeting."[26]

Information warfare may be even more amenable than nuclear weapons to implementing Schelling's bargaining-and-punishment approach to deterrence, given its specific focus on perception and communication. Schelling's ideas acquired an unfortunate association with the ROLLING THUNDER bombing campaign during the Vietnam War.[27] Perhaps information technology permits their resurrection.

The weapons that could bring back Schelling's bargaining concepts are mainly the tools of the hacker and the "old crows" of the U.S. military electronic warfare community, supplemented by emerging technologies. The techniques most closely associated with information warfare are those of computer network attack. These

include viruses and knowledge-robot bombs that target specific computer components. They can be placed in computers in advance as "Trojan horses" (which look like legitimate programs but are actually destructive) or as "trap doors," which provide unauthorized outside access and exploitation. A third approach, "chipping," plants malicious hardware in enemy systems.[28]

In addition, the tools of electronic warfare, used since World War II against enemy sensors, can today, particularly when augmented by advanced technology, be turned against communications and computers. Enemy communications signals and computer functions can be jammed, interfered with, or spoofed. Electromagnetic pulse (EMP) attacks can burn out critical enemy equipment. The brute-force method of generating EMP is to detonate high in the atmosphere a nuclear device optimized to deliver most of its energy as electromagnetic pulse; however, the collateral effects may not be acceptable, and the standing general objections to using nuclear weapons apply. A device known as a high-energy radiofrequency gun, proposed by Winn Schwartau, would achieve the same effect, with the added benefit that it could target specific facilities or even individual computers. At the most exotic extreme, genetically engineered microbes that destroy computers might be developed. These would function in the same way as the bacteria bred to clean up petroleum spills.[29]

At first glance, it is these very capabilities that would seem to pose the greatest threat to the United States itself, dependent as it is on an extensive information infrastructure for governance, finance, civil infrastructure, and military effectiveness. Arguably the United States has the most extensive system of computer networks in the world; it offers plenty of targets to strike. However, that size is also a strength. A network's power increases with its size, and larger size equates to increased survivability, through redundancy.[30]

Conversely, such weaknesses should be all the greater in adversary systems. An entity capable of striking the American information infrastructure must have nodes of its own exposed to attack. In the year 2000, there are estimated to be 262 million Internet users worldwide.[31] This number is estimated to grow to one billion by 2005.[32]

The areas of largest growth in Internet hosts are in the third world; Iran underwent the second-largest increase in the third quarter of

1994, with more than 100 percent growth in three months. Thirty-five percent of Internet hosts are now outside of the United States.[33] If the large United States computer network presents vulnerabilities, how much more susceptible are the smaller networks of adversaries, particularly given the authoritarian penchant for centralized control of communications?[34] These centralized, localized systems would be even easier to enter, and would probably fail much less gracefully, than Western ones.

In a remarkable role reversal for countries that formerly hoped to hang the West by ropes the capitalists sold to them, many third-world countries are attempting to overcome their backwardness, and especially the isolation of their individual communities, by jumping from agricultural economies directly into the modern communications era. These countries buy their communications technologies from the advanced states of the West. By selling them this hardware the United States provides the wherewithal for future conflicts.[35] This is the case especially for developing nations obtaining space infrastructures from multinational consortia; these states substitute satellites, such as Iridium and Globalstar (which the United States also builds), for landlines. On the other hand, by taking this approach, these nations provide doors into their own communications networks.

Given such capabilities and vulnerabilities, the operational question becomes one of what to attack (for coercion) or threaten to attack (for deterrence). Colonel John Warden, the intellectual influence behind the coalition air campaign against Iraq during the Persian Gulf War, proposes a useful framework that conceives of the enemy nation as an interconnected system. His model posits five nested rings, or "centers of gravity." The outside ring represents the military forces that protect the society; in his view, this is the hardest ring to attack, because it is designed to defend itself, and a large number of targets must be destroyed to achieve any meaningful effect. The next ring is the population; this ring was the target of the World War II bombing campaigns and of the countervalue targeting schemes of the early nuclear age, but it comprises the most targets and is a very difficult ring to break. Critical industry resides in the third ring: attacking it strikes at both the enemy's war-making potential and social functioning. The fourth ring contains the "organic essentials," the infrastructure, such as power and transportation,

upon which a nation runs. Attacking this ring can have a strong effect on all the others.[36]

The fifth and innermost center-of-gravity ring is national leadership. This ring decides when to fight and when to surrender. It repre-

To gauge the probable domestic response, consider the reactions during the Persian Gulf War to the Al Firdos bunker bombing or the "highway of death"—and multiply it. The American public abhors both nuclear weapons and high casualties, even among enemies.

sents the smallest but most vital target set. In Warden's view, this is the ring to focus on in a strategic campaign. It is particularly vulnerable in authoritarian regimes, where the existence of small leadership elites—typically having ill-defined succession processes and not representing the will of the masses—presents an opportunity for changing the nation's entire direction.[37]

IW techniques are especially well suited to attacking targets critical to decision making, as John Arquilla and David Ronfeldt propose. Cyberwar techniques can produce "decapitation" effects. The leaders themselves need not be killed. A vulnerability of authoritarian regimes is that their leaderships must control their societies tightly if they are to stay in power; it is necessary only to destroy their means of doing so—command and control links, internal surveillance and police systems, propaganda networks.[38]

A developing nation trying to compete economically with the modern world can be expected to value highly its infrastructure and industry—such elements as electrical power distribution, telephones, transportation grids, air traffic control, and irrigation. They are likely to be controlled by computer networks that are vulnerable to attack, as Daniel Kuehl suggests. Likewise, some nations have industries or resources that constitute their sole economic lifelines, and these could provide opportunities. For example, an oil-producing nation might suffer particularly if the computer controls for an oil refinery were altered to throw chemical processes out of balance; explosions could result. The computer controls for nuclear reactors that produce weapons-grade fuel might be disrupted. IW can even strike at the morale of civilian populations—through disruption of essential services, but also by the destruction of influential media

and even by bogus television broadcasts that "morph" their leaders in compromising ways.[39]

As for counterforce campaigns, information warfare can not only hold military targets at risk, for deterrence purposes, but offer damage-limitation options. Attacking command, control, communications, computers, intelligence, surveillance, or reconnaissance assets would take out a military's brain and nervous system and with it the opponent's ability to orchestrate the employment of forces.[40]

Finally, and crucially, IW can defend against an opponent having WMD and missile technology. Ballistic missiles are space systems, and all such systems have three components: that in space (the missile), that on the ground (the launch station), and the link segment (the communications between the missile and its control station). Antiballistic missiles strike only at the space segment; IW targets all three. It might be possible to jam or inhibit the transmission of the launch order from national authorities. Launch systems might be commanded falsely to send a missile off course. As U.S. opponents try to exploit the Global Positioning System, it might be appropriate to modify the signal to confuse enemy guidance systems. Of course, there is also the brute-force method of "frying" the missile's or launcher's electronics with EMP.

The versatility of information warfare is clear. Because of their discriminating nature, IW techniques can respond to acts either of nonstate actors or their state sponsors. Information warfare—which may not even constitute "force" in the classical or legal sense—provides options to counter proliferation efforts early in the development process. It might even be appropriate to use IW to preempt a conflict.[41]

Costs and Caveats

What would be required to implement a strategy incorporating IW-based deterrence? The move to information warfare in its total scope would be a revolution in military affairs; to integrate even this aspect of such an RMA, doctrinal and organizational adaptations would be required, in addition to technological advances and new systems.[42]

The Department of Defense would need to adjust extensively its structure and policies to accommodate information warfare. One

recommendation proposes "standing up" an Information Corps co-equal with the other four armed services. Martin C. Libicki suggests that a separate Information Corps would guide systems acquisition, promote doctrine development, provide unity of command for func-

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tions currently spread among separate services, and create an environment for the development of "information warriors."[43] Another approach grants Dr. Libicki's concerns but recognizes that budget constraints will not permit a separate service and instead proposes a functionally oriented unified command to champion the IW mission.[44] At a minimum, it may make sense to collect the IW function under a single already existing unified command.

The military would also have to undertake the costs of developing specialized and technical expertise, upon which information warfare places a high premium. The services would have to invest in scholarships for software engineers, computer architects, and electrical engineers in order to grow an initial knowledge base. Because computer intrusion is not a skill taught in universities, it would be necessary to supplement academic programs with training by industry or Defense Department agencies. Such personnel would need to be carefully screened and monitored—perhaps in a system similar to the Defense Department's Personnel Reliability Program, currently applied to service people with responsibilities involving nuclear weapons—to ensure that these skills remain under strict control and discipline. Congress might also choose to exercise the kind of oversight and approval over IW activities that it currently does for covert intelligence activity, so as to mute any public concern over government-sanctioned and funded hackers.

The military would be competing with an expanding knowledge-industries economy, so it would be necessary to consider retention incentives. Those who joined the military to enter the IW field would need assurance of reasonable career prospects; the services may need to reexamine their promotion criteria to ensure that they are not

unduly biased in favor of "movers and shooters." Overcoming the military's traditional "machismo" image of leadership enough to allow a vital community to emphasize "brains over brawn" and create "cyber warriors" might be the hardest adaptation of all.[45]

Skilled people are essential to answering the critical doctrinal questions that underlie successful IW campaigns. Orchestration would be necessary to avoid fratricide or undesired interactions. For instance, it may not make sense to strike enemy communications systems with conventional weapons while operations to penetrate and take out computer capabilities are pending. More importantly, the level of command or government having release authority for IW attacks must be clarified. Perhaps the president would need a second "football" for information-warfare options.

The focus of the services' systems procurement efforts would need to shift. In the IW paradigm, the network is more important than any specific platform. In an IW campaign, these systems assume more significance than they have in their force-enhancement role; they become gunsights and weapons.[46] National agencies would need to develop intelligence capabilities that permit them to understand enemy information networks and their specific weaknesses. Spending would have to increase for research and development of some exotic systems, such as high-energy radiofrequency guns. The Defense Department would also have to ante up to protect its information systems and the national infrastructure.

It may also be appropriate to reconsider policies regarding export controls and technology transfer. After all, if the United States sells the hardware, it retains the advantage of understanding its operation and capabilities and can potentially control design and manufacturing to the benefit of the IW program. Technology export policy must balance the opportunity for exploitation against the risk that the technology might be used against U.S. interests.

An information-warfare strategy option for deterrence and coercion carries other risks that require consideration. IW is not a cure-all. Not all opponents will have information systems that are vulnerable and that matter to them; a politically reclusive nation with an information architecture closed to the outside world would be difficult to attack. (Of course, such a closed system would have forfeited the interconnectivity that is the strength of cyberspace.) Further, the use of IW for deterrence or coercion may invite

retaliation in kind. As in the nuclear era, political decision makers must consider carefully how close to the brink to go.

The nonlethal nature of an IW response may make it less than compelling to some opponents. However, not even nuclear responses are guaranteed to deter all adversaries. The civilian leaders of a WMD power may have poor control over its military at a time when its behavior heightens the risk of nuclear confrontation. Regional militaries may be biased in favor of offensive postures and preventive war.[47] Deterrence could fail because an enemy leader misreads the depth of U.S. political support in a crisis. Cultural factors may color his calculations. A tyrant surrounded by sycophants, the center of a personality cult, may not learn of his danger until it is too late; even then, such a leader may be indifferent toward the degradation of his own society or economy. Individual leaders or whole populations—the NASTI states are likely to be among these—may have worldviews or value sets that simply make them undeterrable. Others may perceive their situations as so dire as to leave them nothing to lose; they might be inclined to launch revenge attacks, to go out in a blaze of glory. Finally, of course, accidental or unauthorized launching of WMD from a state experiencing civil unrest cannot be deterred, whether by IW, nuclear, or conventional response.[48] Because IW will not be universally applicable, American decision makers will need to retain other options. For the exceptionally hard to deter threats, a nuclear response might be the only alternative. Conventional attacks using precision guided weapons may suffice in some instances, but such responses require prolonged military campaigns and thus extended commitments of people and resources.

The vital interests of protecting security, building the economy, and promoting democratic values will continue to lead the United States to participate in coalitions, support friends, and confront adversaries. Some of those adversaries will possess nuclear, biological, or chemical weapons. Others will add ballistic missiles to their arsenals. More will strive to join the NASTI club to exploit the leverage these weapons offer for shaping crises to their advantages. The United States needs the capability to deter the use of WMD, devalue their ownership, and coerce their owners.

Information warfare offers U.S. decision makers ways to accomplish these ends with a versatility and credibility that nuclear weapons lack. Computer network attack, electronic warfare, and

electromagnetic pulse devices represent a range of options for threatening punishment against the targets adversaries may well value, and they can help to limit the ability of an enemy to strike at U.S. forces or allies.

Information warfare would require extensive adaptation, investment in personnel and technology, and revision of organization and doctrine. Perhaps most importantly, policy makers will need to recognize that IW is not a panacea. It offers much, and can probably fulfill much. Yet IW may not fit every crisis. As always, government and military leaders will need to balance opportunity and risk.

Notes

1. For an overview of the various terms, see Martin C. Libicki, *What Is Information Warfare?* (Washington, D.C.: National Defense Univ., 1995).

2. Arthur K. Cebrowski [Vice Adm., USN] and John J. Garstka, "Network-Centric Warfare: Its Origin and Future," U.S. Naval Institute *Proceedings*, January 1998, pp. 28–35.

3. Joint Staff, *Command and Control Warfare*, CJCS MOP 30 (Washington, D.C.: Joint Staff, 8 March 1993), encl. 1, pp. 1–32.

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Ψ

Boon or Threat?

The Information Revolution and U.S. National Security

Robert R. Tomes

SIXTEEN MEN AND WOMEN GRADUATED from the National Defense University in June of 1995 to become the nation's first accredited joint "infowar" officers—the first graduates of the National Defense University's newly created School of Information Warfare and Strategy.[1] Other events over the last five years suggest that information warfare (IW) has become a central component of the U.S. national security milieu.

The Joint Staff's new IW directorate has published a number of books and manuals on establishing information-warfare doctrine. Regional commanders develop IW campaign plans spanning diverse contingencies, mapping the information architectures of states in their respective areas of responsibility. "Flexible deterrence options," which provide escalation options during the initial stages of a conflict, now include a range of offensive and defensive information operations. A National Infrastructure Protection Center exists to safeguard the entire U.S. information infrastructure, including power grids and systems for financial transactions.

On the defensive side of IW, Deputy Secretary of Defense John Hamre wrote in November 1998 that "the challenge of information assurance is akin to war, and we are approaching it that way by designating a Joint Task Force Commander for Computer Network Defense to organize our efforts."[2] Only a year earlier Hamre had warned the Senate Subcommittee on Technology, Terrorism, and Government Information that "there will be an electronic attack sometime in our future. . . . [W]hen it comes, our ability to withstand it will depend in large amount on steps we take now and in years ahead."[3]

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About the same time, then–Director of Central Intelligence John Deutch, ranking long-term threats to American national security, placed information warfare third, behind only the proliferation of weapons of mass destruction and nuclear, chemical, or biological terrorism.[4]

On the offensive side, U.S. doctrine states that "offensive computer network attacks will become an intrinsic part of U.S. warfighting doctrine, and even could be used in peacetime operations."[5] William Church, publisher of an information operations newsletter, has remarked on the new infowar doctrine, "It is now official. Each country must build offensive-defensive information operations capabilities or be left unprotected."[6]

Considering both offensive and defensive information warfare, former Deputy Chief of Staff of the Army Claudia Kennedy concluded that information has the potential to be "the most destabilizing factor in the world today."[7]

As these and other statements suggest, the "information revolution" has come to dominate national security planning as much as it has come to dominate economic and social life. This revolution, building on and subsuming previous post–World War II "revolutions" (electronic, microelectronic, computer, communications, digital), represents more than cumulative technological advances. It is a new process of wealth creation; it has stimulated new ways to organize and manage tasks within society; it has changed the way organizations manage people and processes; it has provided the means to exploit and integrate specialization; and it has institutionalized the spatial-temporal changes commonly referred to as "post-modernity."

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Is the information revolution a boon or a threat to U.S. national security? It is, of course, both. Several aspects of the information revolution, however, suggest an optimistic assessment for the United States. Understanding the effects of the information revolution on national security requires understanding the social, political, economic, and philosophical aspects of the information age. Accordingly, this article provides background on the information revolution and introduces information-age national security issues—which are often lost or obscured in writings about the current revolution in military affairs. Specifically, it gives an overview of the information revolution and develops definitions that now inform discussions of IW. It is particularly important that we grasp information-age concepts that can expand the way we think about information and the organization of society, especially processes for creating wealth. Whether we succeed in building a conceptual bridge from information-age dynamics to national-security imperatives depends on how well we understand the extent to which we have become an information society.

What is the information revolution? How does it affect national security? As we shall see, much of the information revolution touches on nonmilitary aspects of society, which means that it affects more than the military component of national security. Indeed, it may be that the greatest existential threat from IW to national security is not to military assets but to the civilian information infrastructure.

A number of innovations, inventions, and trends—beginning in World War II—culminated in the introduction of IBM's personal computer in 1981. Subsequently there occurred a digital revolution, as well as a determined global race for commercial space systems and—of central importance—a decline in the cost of computing power and of storing information.[8] According to one estimate, "The cost of storing a single digital unit of data in a memory chip fell from one-tenth of a cent in 1976 to one-thousandth of a cent in 1986, and it will keep dropping by about 35 percent per annum."[9] Indeed, digital technology, fiber optics, and satellite communications have combined to quicken the pace of microelectronic, telecommunications, and computing innovations that had begun decades earlier. It was

the accumulation, then, of decades of separate technological developments that established the information revolution.

Beginnings

The world entered the computing age in 1943, when the British built ten "Colossus" machines to help break the German Enigma code. Three years later, the Electronic Numerical Integrator and Calculator (ENIAC) was activated in Pennsylvania. A computer revolution was under way.

A seemingly unrelated event occurred soon after. In 1947, scientists at Bell Laboratories discovered the transistor effect: a small piece of wire with germanium contacts could be fashioned to produce an amplifying effect.[10] Within ten years numerous types of transistors were being produced, and still more were being researched. The first silicon-wafer transistor, created in 1959, gave birth to a microelectronics revolution. What made it a revolution? Prices for the "brains" of microelectronics products dropped by a third every year, while their sophistication doubled at the same rate.[11] A new era in the computer revolution started to take shape with the coining of a new term, "artificial intelligence." The quest for intelligent, thinking machines that are able to learn continues today.

Along the way, the computer and microelectronics revolutions converged, due in part to advances in digital technology: personal computers, small enough to fit on a desk, began to appear. Soon they appeared on yet more desks, as prices declined and society began to depend on them to add value to all manner of work and thought processes. In time we began to *expect* to see a PC on every desktop.

But the harbingers of the information revolution were not limited to these developments. Alongside the computer and microelectronic revolutions there occurred a telecommunications revolution. It originated with Alexander Graham Bell's 1876 invention of the telephone; a hundred years later, the world was using over half a billion of them. The digital revolution collided with analog telecommunications in the late 1970s; immediately, existing analog systems became antiquated and clumsy, and were replaced with digital ones—faster, cheaper, more efficient, and able to carry more information. These systems also carry different *kinds* of information: telecommunications and data processing could move over the same system. Soon

faxes, modems, and networking were integral parts of Western civilization.

Spatial and temporal distance no longer determined our communication parameters. Fiber optics, invented in the 1960s, reduced limitations on transmission size, and deregulation of the telecommunications industry in the 1980s opened the door to competition (producing the breakup of AT&T in 1984). By 1990, companies were moving ahead with plans to provide telephone cable and computer data service over the same lines. If one adds satellite communication and notes that all of these technologies rely on semiconductors and microchips, one begins to grasp the basic technological components of the information revolution.

The Revolution Takes Form, and IW Is Conceived

A software revolution, as distinct from the computer revolution, was foreshadowed in 1969, when IBM decided to market hardware and software separately rather than "package" them; the revolution itself began in the 1980s, with the explosion in personal computing.[12] Systems software and applications programs expanded with it. An entire industry emerged. Soon the fastest-growing employment sectors were computer programming and network management. Concurrent with the software revolution was a revolution in storage techniques and peripheral devices, including digital read-write hardware.

The various revolutions fed on one another. Better hardware meant more sophisticated software; new software created demand for faster processors; faster processors meant faster external devices and telecomputing; faster systems demanded quicker links between them—and on and on. By the late 1980s, the revolution was globalized. By 1990, "over 14,000 Internet databases [were] being used by over 30 million people in over 90 nations."[13]

An unprecedented amount of information is now carried over international networks, at unprecedented speed, among billions of people—this is the basic result of the combination of modern communications technologies (which transmit information) and the capabilities of modern computer processing. Add to that satellite television, VCRs, newsgroups, and scores of other information-based systems. Consider the computation power placed in the hands of billions of people, coupled with the power to manage and use

unprecedented amounts of information. Ponder the number of devices that now use semiconductors and microchips, the latter essentially micro-information managers. The totality of all these, existing at the intersection of the revolutions we have mentioned, characterizes the basic technological infrastructure of the information revolution.

But information technology is not the only aspect of the information revolution, as a number of theorists of the information age have pointed out. The futurists Alvin and Heidi Toffler are perhaps the

> *It is useless to pretend that the proliferation of these [information] technologies will not provide capabilities that can do serious harm. It is useless to pretend that military-based command and control warfare capabilities will not be developed, and it is useless to pretend that cyberwar technologies could not be turned to netwar applications.*
>
> —*Roger Hanseman*

most frequently cited observers of the information revolution. They were also among the first to call for an infowar occupational specialty in the U.S. military. For the Tofflers, revolutionary changes in warfare are preceded by changes in the process of wealth creation: "Starting with the very invention of agriculture, every revolution in the system for creating wealth triggered a corresponding revolution in the system for making war."[14] Their "wave" theory identifies three revolutionary changes in wealth creation, each of which stimulated a revolution in warfare. The first and second waves, the agricultural and industrial revolutions, are behind us. The third is going on now.

Like the industrial revolution, the third wave is more than the proliferation of a new kind of technology. The industrial revolution involved specialization, division of labor, and massive manufacturing complexes—all of which were mirrored in the military and in the defense industry. "As 'first wave' wars were fought for land and 'second wave' wars were fought for control over productive capacity, the emerging 'third wave' of wars will be fought for control of knowledge. And, since 'combat form' in any society follows the 'wealth creation form' of that society, wars of the future will be increasingly 'information wars.'"[15]

Information is the key to the third wave: "Knowledge, in short, is now the central resource of destructivity, just as it is the central resource of productivity."[16] First-wave (agricultural) and second-wave (industrial) societies still exist. There are also mixed societies, making the transition from one to the other; the defining aspects of third-wave nations—information technologies—are changing how this transition occurs in mixed societies. Because the United States does not anticipate armed conflict from a third-wave society in the near future (there are not many of them), potential aggressors at the state level are likely to be transition states with armed forces still organized to fight second-wave wars.

Off the battlefield, however, because aspects of the information revolution are guiding wave transition, nontraditional third-wave attacks can come from anywhere. One nightmare scenario for infowar defense planners involves attacks with no military purpose, assaults that are terrorist or ideological in nature. Because we value information and information systems, these are likely to be targeted and attacked.

Assessing the Revolution

Today, wealth depends on information, which is traded, sold, leveraged, and banked. Wealth is built by adding value to raw materials—by combining material, know-how, manufacturing processes, and marketing. In the information age, a whole sector of the economy is built solely around people who process and trade information. The single most important physical method of adding value in today's economy is to integrate, in an innovative way, a microprocessor into a product or production line to make it more efficient or effective. This "value adding" depends on knowledge; it depends on information or technology that stores, manages, or provides information. For example, because they use information and knowledge-based control systems (that is, expert systems), "modern steel plants use far less labor and energy, and even less raw material, to produce a given amount of steel than did plants of a generation ago."[17]

Also changing is how we organize for wealth creation. Organizations and management structures "are changing rapidly," becoming flatter, smarter, and more efficient.[18] Hierarchical organizations with middle managers, created during the industrial era to manage

information flow, are no longer efficient. Inventory control, accounting, marketing, research and design—all of which depend on computers and software—are being reengineered.

The Internet has also changed the economy. Millions of Americans work at home. Smaller "cottage industry" factories and home busi-

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The electromagnetic spectrum will be our "Achilles' heel" if we do not pay sufficient attention to protecting our use of the spectrum and at the same time recognize that we must take away the enemy's ability to see us and to control his forces.

—General Jimmy Ross

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nesses—much easier to adapt and upgrade than larger factories—are competing on the world market by becoming more efficient through applied technology. Desktop publishing and information-based employment, software engineering, accounting, editing, business-process reengineering—all these functions are now done over the Internet.

The information revolution has also changed international economics and has changed the very structure of the world economy.[19] An integrated European market would be impossible without information technology. Indeed, computers and telecommunications have blurred lines between local and international economies. Walter Wriston, former chairman of Citicorp, has observed that "the convergence of computers and telecommunications has created a new international monetary system and even a monetary standard by which the value of currencies is determined not by the arcane manipulations of central banks, whose total reserves are now dwarfed by a single day's trading on the world currency markets, but by myriad facts that are now instantaneously available."[20] Technology transfer, technological spillover effects, managing externalities created by the fungibility of know-how, electronic capital movements—these are now central issues in international business.

In *Turbulence in World Politics*, James Rosenau summarizes changes to global politics associated with the information age: "The advent of instantaneous communications and information . . . have so greatly collapsed the time in which organizations and movements can be mobilized that the competence of citizens feeds on itself, in the sense that they can virtually 'see' their skills and orientations being

culminated into larger aggregates that have consequences for the course of events."[21] Rosenau sees the information revolution (specifically the microelectronic revolution) as the primary cause of "turbulence" in international relations. He argues that technology engendered a globalized civil society:

> Technology has expanded the capacity to generate and manipulate information and knowledge even more [than] the ability to produce material goods, leading to a situation in which the service industries have come to replace the manufacturing industries as the current edge of societal life. It is technology, too, that has so greatly diminished geographic and social distances through the jet-powered airliner, the computer, the orbiting satellite, and the many other innovations that now move [more] people across space and time than ever before. It is technology that has profoundly altered the scale on which human affairs takes place, allowing people to do more things in less time and with wider repercussions than could have been imagined in earlier eras. It is technology, in short, that has fostered an interdependence of local, national, and international communities that is far greater than any previously experienced.[22]

In *The New Renaissance: Computers and the Next Level of Civilization,* Douglas S. Robertson surveys the impact of the information revolution on all aspects of life.[23] Even the way society approaches science has been altered. Previously, science hinged on theories and experiments. Now a third modality—simulation—has become a recognized route to scientific knowledge. Education, the theory of mathematics, and medicine have all been transformed. Challenging new issues confront society. In the case of medicine, the mapping of the human genome and of DNA has opened new frontiers. Synthetic drugs, cloning, and revolutionary treatments for previously fatal illnesses have become possible only with information technology. Medical ethics must address cloning humans; soon genetic engineering will be possible, as will DNA testing on fetuses to assess predisposition to disease. Other aspects of life dominated by technology include social services, emergency-response services, banking, education, athletics, entertainment, energy, and transportation.

In sum, the entire socioeconomic infrastructure of civilization in the United States is permeated with information technology.

Arguably, information technology has become part of the interstitial tissue of American life. For sociologists this was to be expected: the evolution of American society, more than most, has always been techno-centric. For example, Martin Gannon, a professor of international management and behavior, argues that "the United States has historically been 'short' on labor and 'long' on raw materials. To use their abundant raw materials, Americans had to substitute machinery and equipment for unskilled labor. Influenced by the success of their highly mechanized industry in the late 1800s, Americans were shrewdly induced to use the power of machines and technology. To Americans, technology was empirically proven to stimulate growth and success, and their dependence on machines grew heavier."[24]

Colin S. Gray offers a slightly different argument, that "the American fascination with technology . . . resulted from conquering the wilderness. The relative absence of societal support on the frontier bred a pragmatism that translated into an engineering, problem-solving approach—an approach that at times has dismissed conditions as merely problems. American society responded sensibly to its shortage of labor, particularly highly skilled labor, by embracing machines and taking the lead in producing machine tools. The American preference for the use of machines in war lies rooted in the sparse people-to-space ratio of frontier America, and in the acute shortage of skilled artisans that lasted well into the nineteenth century."[25]

The fact that America has led—some would say pulled—the world into the information age becomes an important consideration in how and why U.S. national security thinking has become focused on protecting information infrastructure.

A New View of Information

At the most basic level, the information revolution involves a shift in how we think about information on the ontological level. John Arquilla and David Ronfeldt provide one framework for conceptualizing this shift: "Three general views of 'information' appear in discussions about the information revolution and its implications. Each view approaches the concept differently; each harbors a different perspective of what is important. Two views are widespread: The first considers information in terms of the inherent *message*, the second in

terms of the *medium* of production, storage, transmission, and reception. The emerging third view transcends the former two; it speculates that information may be a *physical property*—as physical as mass and energy, and inherent in all matter."[26]

The information-as-message view sees information as a message or signal that is carried from a sender to a receiver. The second view, information as medium, incorporates the system of transmission and reception. It developed during the 1940s and 1950s, when a cybernetic, or feedback, approach to systems engineering expanded our concept of information to include the organization or structure associated with a message's content. In this sense, a book in itself—not just the cognitive import of its printed words—is information. The third view further expands the idea of information—it is about much more than message and medium (or content and conduit). "Its main thesis," according to one author, "is that 'information' is not merely a product of the human mind—a mental concept to help us understand the world we inhabit—rather, information is a [physical] property of the universe, as real as are matter and energy."[27] The third model is hard to grasp, but it does comport with information-warfare operations, which target and attack information—with information—as directly as does a "dumb" bomb dropped on a radio transmitter site. This third view of information is critical for understanding the proliferation of IW issues in discussions of U.S. national security.

We have reviewed the technical and socioeconomic aspects of the information revolution. However, the heart of information technology, perhaps the central factor in the convergence over the last fifty years of the numerous revolutions we have mentioned, is the microchip.

What is a microchip? Understanding the microchip is vital to understanding how information is now considered both a weapon and a target. A microchip, smaller than a pea, can contain as many as a million circuits. Circuits consist of layers upon layers on silicon, a substance reduced from its oxide, common beach sand. Each layer has a certain design that allows it to store a message—at its simplest, an open-closed dichotomy. Millions of these messages operating together represent a new form of language processing.

So the microchip both *contains* information and *is* information. Therefore, to defeat the microchip—paralyze it or otherwise keep it

from functioning—we have a number of options. We can cut off the microchip physically from the system it is embedded in, turn off its power, freeze its circuits, garble its internal connections, scramble its internal language, or change the grammatical properties of its "speech" to other chips (making its output indecipherable). Other possibilities exist, but this truncated list makes the point. Now consider that virtually every modern machine, computer, weapon system, vehicle, timekeeping device, sensor, radar, power grid, point of access to personal information, and engine is controlled or regulated by a microchip. Each of these systems and devices is vulnerable if that chip, its internal functioning, its communication capability, or its connection to other chips or systems is either destroyed or paralyzed.

Imagine a computer program downloaded from the World Wide Web as information; now call that program a virus, and envision trying to erase it using another computer program. Now imagine five hundred hackers all trying to insert viruses into national and local computer systems. Again, imagine an electromagnetic pulse aimed at your computer; the target is not so much your computer as the organization of the data within it and the functioning of its microchips. Once we conceive of information as an existential "thing" as much as a metaphysical or mental construct, it is much easier to understand the security implications of the information age. It is no longer necessary to bomb an airplane factory to keep a nation from producing combat aircraft—only to paralyze the chips in the systems that make, test, or operate aircraft. This can be done with another chip, or with information stored and communicated through information technology.

From Information Revolution to IW: Aggregation and Situational Awareness

In an article entitled "An Information-Based Revolution in Military Affairs," Norman C. Davis argues that "the Information Revolution is based primarily on significant technological advances that have increased our ability to collect vast quantities of precise data; to convert that data into intelligible information by removing extraneous 'noise'; to rapidly and accurately transmit this large quantity of information; to convert this information through responsive, flexible

processing to near-complete situation awareness; and, at the limit [of this awareness], to allow accurate predictions of the implications of decisions that may be made or actions that may be taken."[28] What Davis describes is an order-of-magnitude change in the way we collect, aggregate, analyze, store, retrieve, and benefit from information.

Situational awareness, a topic central to the information warfare component of the revolution in military affairs, is an extension of a biological organism's inherent proprioceptive *and* contextual-associative functions. Human proprioception is defined as "awareness of posture, movement, and changes in equilibrium and the knowledge of position, weight, and resistance of objects in relation to the body."[29] This awareness is drawn from unconscious inputs (which are processed into conscious awareness) from the peripheral nervous system; loss of those inputs isolates the brain from critical information about what is going on within the body and about the body's position in the world.

The contextual-associative functions of an organism are based on input from all sensory neurons and on how this input is used.[30] Humans can suffer paralysis and loss of sensation even without injury to these neurons or awareness processes. Without them, we are helpless. Nor can we ask for help. At the extreme (for instance, under the influence of drugs inducing deep sleep and impairing memory), we would not even know that we were in trouble.

Situational awareness is a function of the aggregation and clarity of information. Advances in information technology have increased our ability to aggregate information and refine it so as to achieve greater clarity, improving and clarifying our situational awareness. This means we can act more decisively and with more precision than ever before to affect our environment. Fund managers and magnetic-resonance-imagery analysts use information technology to extend their ability to sense their respective "worlds." The former applies risk assessments and other tools to make predictions about currency or stock performance; the latter uses advanced software and analysis techniques to evaluate the functioning of the body's organs.

Essentially, the information revolution has created systems, some would say networks, that extend the natural processes that support situational awareness. This is *virtual reality:* the creation of situational

awareness outside of the physical, tangible reality of the represented system. It can also be the re-creation of the system, in order to identify and understand its constituent properties—we call this *virtual simulation.*

What about military applications? In their *Multisensor Data Fusion,* Edward Waltz and James Llinas offer examples of functional architectures for creating "situation assessments," which depend on the ability to fuse, synergistically, multiple sensors, which may in turn collect data from more than one spectrum (such as electro-optical and infrared). "It is clear in fusion problems involving multiple targets in military scenarios, in which single platforms or events often associate with more than one possible intended hostile activity, that combinational aspects of the problem can grow quite rapidly. This situation leads to complex problem-solving logic, to requirements for fast computers, and especially to difficult database management problems[,] . . . aspects of real-world systems architectures that the fusion system designer has to realize are the constraints and interfaces provided by the surrounding system elements."[31]

Perhaps this is the essence of what Davis is describing: it is not only the single sensing system itself that has emerged from the information revolution but an entire new way of, a "metasystem" for, sensing, acting, and achieving. But if we are truly to achieve, the systems involved must all be advanced enough to do their shares of the work—an airborne early-warning AWACS plane is useless unless something can be done with the targeting information it provides. All of the microchips in the metasystem must be considered infrastructure "nodes." As such, they can all be located and attacked. Because they can be attacked, they must be defended.

When infowarriors speak of achieving "dominant maneuver" or "dominant battlespace knowledge," they are really talking about their situational awareness in relationship to enemy forces and terrain. One implication for national security is creating options for defense positioning at the strategic level. Another is creating a capability for nonnuclear strategic attacks—using advanced weapons to achieve a mass-destruction effect by knowing where and when to strike. Take away leaders' situational awareness concerning their entire armed forces, disaster-relief agencies, and financial systems, and we begin to induce strategic paralysis, in the same way that we might induce sleep.

A further factor in situational awareness is the ability to measure and manage information. Claude Shannon, an early analyst of the information revolution, recognized that "the fundamental unit of information measurement is the quantity of information needed to decide between two alternatives."[32] Indeed, the information revolution is partly an explosion in our ability to measure information.

Sophisticated systems with heuristic, interactive forecasting software allow users to measure and manage more information about the battlefield than could be stored in a large university library, meaning that they help commanders develop, and choose between, possible courses of action. The primary concern for national security, therefore, is to make sure that one's own situational awareness, one's own ability to measure and manage information, is not degraded.

Four additional aspects of data fusion and situational awareness are relevant to the information revolution and IW. First, different signals within spectra (various electromagnetic waves, levels of thermal radiation) can be fused into a single uniform output that is more useful than individual signals. The result is better sensory information with which to answer the question, "Is there anything out there?" The second aspect is fusion of different spectra, which provides answers to the question, "What are the characteristics of what is out there?" A third factor is "tracker correspondence," which provides insight into the location and movement of sensed objects. Finally, advances in situational awareness facilitate the transformation of information into actionable knowledge by enabling decision makers to assess the intent of the objects.

OODA: A Grand Theory of IW

John Boyd, a fighter pilot during the Korean War, developed the first and probably most frequently cited theory of control and of what we would now call situational awareness. His revelation came from comparing the performance of Soviet-made MiG-15 fighters in air-to-air combat with U.S. F-86 Sabres. Although the Soviet plane was arguably more advanced than the F-86, the latter's hydraulic controls proved to be the decisive factor: they provided "the ability to shift more rapidly from one maneuver to another during aerial dogfights. Just when the MiG pilot began reacting to the initial Sabre

movement, a rapid change in direction would render the enemy response inappropriate to the new tactical situation."[33]

In the late 1970s, examining aerial combat data, Boyd began developing a theory of combat. Originally an essay and later a five-part briefing to senior defense and military leaders, Boyd's "A Discourse on Winning and Losing" presented "a cognitive process that [he] insists is crucial to prevailing in a highly unpredictable and competitive world. It is a form of mental agility. . . . [H]e contends that one can depict all rational human behavior—individual or organizational—as a continual cycling through four distinct tasks: observation, orientation, decision, and action."[34] This is the most famous part of his theory: the "OODA loop."

The theory is simple but powerful. Consider two boxers. Each continuously cycles through his OODA loop. If they do so at the same speed and are otherwise evenly matched, it is difficult to predict who will win. Now give one the ability to cycle through his loop twice as fast; he can act faster than the other boxer can decide what to do next. He will win, even if the other boxer is stronger. If his OODA cycle is truly twice as fast, he can complete a loop in the time between the moment the other boxer starts to throw a punch and when the blow lands—or would have landed. In other words, the boxer with a more accurate and timely OODA loop can compress his decision cycle within an adversary's. In this way he exploits information superiority to achieve decision superiority.

True information-era situational awareness improves one's ability to cycle through OODA loops. Information technology also increases the efficiency of all of the steps in the loop, with the result that actions can be more decisive and effectual than at any other time in human history. The ability to measure and manage information (and thus decide among options) at unprecedented rates—with predictive understanding of the enemy's possibilities—translates into an advance in battlespace awareness and sensor-to-shooter capabilities that is nothing less than revolutionary.

Major General Kenneth Minihan, Air Force Assistant Chief of Staff for Intelligence, envisions how information warfare can be used to affect an OODA loop: "As we compare friendly and adversary OODA loops, it becomes a deadly game of compression and expansion. We will use information warfare to expand the adversary's and compress

our own action loops. If you can't think, can't hear, and can't see—and I can—you will lose every time."[35]

The Information Revolution: Boon or Threat?

The "boon or threat" issue can be addressed in a variety of ways—all under the assumption that the information revolution is not reversible, that the real question is whether the U.S. experience with the information revolution warrants optimism or pessimism. For three major reasons, among others, the information revolution is likely to be a boon to U.S. national security—though for each boon, for each positive, there is a threat, a negative, that must be accounted for.

First, it is important to consider, in assessing the boon-versus-threat question, the magnitude of the information revolution and the fact that the United States would not be in the economic or political position it occupies today had it never occurred. The nation's ascent to superpower status during the industrial era was, in no small part, due to its ability to outproduce its adversaries—both quantitatively and qualitatively. America's continued economic leadership in the world now depends on its performance in the information sectors.

The Importance of Being First. In many respects the severity of any information threat to U.S. national security is defined by what the United States has done to prepare for attacks that it has conceptualized. As the first nation to create an information warfare doctrine and the first to institutionalize information warfare within its national security infrastructure, the United States is positioned to meet future threats—provided it maintains its lead in information technology.

The threat here is the trap of linear thinking. Being first to go somewhere does not mean one has found the only or best route; *non*linear thinking is one of the trademarks of warfare in the information age. Consider the development and use of tanks: the Germans did not "get there" first, but they were surely the best in 1939. Avoiding this threat to national security requires the cultivation of innovative thinkers and the institutionalization of redundant, dissimilar defenses. Such defenses are currently not common, because

software standardization has tended to give all related systems similar vulnerabilities.

The Cultural Legacy. A cultural attribute commonly ascribed to Americans is technological know-how. The military aspects of the information revolution are being developed primarily in American research laboratories and corporations. Whatever technological "curves" opponents manage to throw, the United States is likely to find them only minor setbacks. It is unlikely that any country will develop before 2015 or 2020 an information warfare capability sufficient to cause serious harm to the United States. It is also unlikely that any armed force will be able to match U.S. warfighting capability with conventional forces. The threat here is another common cultural legacy ascribed to Americans, arrogance. Remember what the ancient Greek poets and playwrights taught us about hubris.

Knowing What Must Be Defended. The United States has already conducted a national survey of its critical infrastructure and has begun to prepare its defense. The report of the President's Commission on Critical Infrastructure Protection, published in October 1987, "was the first of its kind, an initial look at how America would have to defend itself in the infosphere that would evolve in the early part of the twenty-first century."[36] This means the United States has already mapped the information nodes that are critical to national security.

Not every level of daily life has been researched, but we do have an understanding of which nodes and systems are vital for the operations of such national systems as disaster response, emergency rescue teams, important national communication systems, banking and financial systems, transportation and power infrastructure, and water supplies. On the other hand, security specialists have learned a hard lesson: a determined and patient enemy can get to, and kill, anyone. Just because we have mapped critical infrastructure does not mean that we are invulnerable.

Beyond Reports. Some steps have already been taken based on the commission's findings. As noted, a National Infrastructure Protection Center has been created as an interagency body reporting to the National Security Council. Its staff includes representatives from the Department of Defense (including the Joint Staff), the Federal

Bureau of Investigation, the State Department, the Treasury Department, the Defense Threat Reduction Agency, the intelligence community, and national laboratories. In addition to monitoring, it has a law enforcement role—its staff can gather evidence and make arrests. Still, every organization has inherent weaknesses; one of these can be its people. Recent espionage cases argue against thinking that national secrets cannot be bought or compromised by ideologues. Most of the critical penetrations of banking systems have been accomplished using inside information.

Intelligence. Because the United States has an early start on understanding information technology-based warfare, it has been the first to attune intelligence agencies and security managers to the threat. No system or defense architecture is perfect, but knowing the realm of the possible is the first step toward developing the people and resources necessary. In addition, steps have been taken to coordinate infowar defense with other countries. Several specific cases have already demonstrated an ability of countries to work on information-era problems in the same fashion that they now collaborate against terrorism and drug trafficking. The downside is obvious: intelligence organizations have been known to fail.

Understanding First Steps—Because You Made Them. Another reason for optimism is our understanding of the steps leading up to the information revolution—we are the nation that took them first. Countries that did not keep up are decades behind in the technical and conceptual aspects of information warfare. All the non-Nato militaries (except perhaps Israel, although Martin van Creveld disagrees) are still equipped, trained, and organized to fight a World War II–era tank battle.[37] Such battles are linear, with stable fronts and identifiable rear areas. The United States no longer looks at the battlefield in such a way. Current doctrine, which has learned from the Gulf War, and current weapons, some of which are already a generation ahead of the most advanced used against Iraq, envision simultaneous attacks throughout the depth of a theater. No other country is likely to have this capability—which requires training, organization, advanced logistical skills, leadership, and intelligence capabilities in addition to weapon systems.

The problem is that nations opposed to the United States may turn to chemical or biological attacks to "level" the battlefield. "Asymmetric threats" have been recognized as a major concern for U.S. national security, especially where American resolve is sensitive to U.S. casualties. One of the aspects of the information revolution needing more attention is the emotive power of media to stimulate the public concerning overseas calamities. The United States was in Somalia in part because of the popular outcry over what was reported on television. A strong moral conviction running through the cultural fabric of America is that the weak and impoverished must be championed, a conviction that leads to a will to help. This will is quickly reduced when Americans die.

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The Battle of Midway

Why the Japanese Lost

Dallas Woodbury Isom

THE BATTLE OF MIDWAY CONTINUES TO GRIP the imaginations of those interested in World War II. This is true not just because it was the pivotal engagement of the Pacific theater but also because it was a battle the Americans should have lost—but instead won by one of the most lopsided margins in naval history. The Japanese entered the battle with an overwhelming advantage in ship-sinking firepower, but in the end they were soundly trounced. All four of their aircraft carriers were sunk, as against just one of the Americans'. Most dramatically, three of the Japanese carriers were destroyed in a span of just two minutes, and only minutes before those carriers were to have launched their own attack against the American carrier fleet. On 4 June 1942, Japan's offensive naval air power was virtually destroyed in a single battle, and what little chance it ever had of winning the war in the Pacific went up in the smoke of its burning carriers. The titles of two popular books about the battle—*Incredible Victory* and *Miracle at Midway*—capture the momentousness of the event.

The principal protagonists in this battle for naval supremacy in the Pacific have become legendary. On the strategic level, Admiral Chester Nimitz, commander in chief of the U.S. Pacific Fleet, matched wits against Admiral Isoroku Yamamoto,* commander in chief of the Japanese Combined Fleet; on the tactical level, Rear Admiral Raymond Spruance (under Rear Admiral Frank Fletcher) was pitted against Vice Admiral Chuichi Nagumo, commander of the Japanese carrier force.

* Japanese names are given in Western order, given name first.

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The genesis for the Midway operation was the failure of the attack on Pearl Harbor to catch and destroy the American carriers that Yamamoto had expected to be there with the rest of the Pacific Fleet. The Doolittle raid on Japan in April 1942, in which sixteen B-25 bombers were launched from the carrier *Hornet* (CV 8), had crystallized support in the Japanese high command for an operation to eliminate the American carrier force in the Pacific. Yamamoto's objective was to entice—by attacking and occupying the two small Midway Islands, where a U.S. naval base had been established—Nimitz's carriers into a decisive battle in which they could be destroyed. The Midway atoll, about 1,100 miles northwest of Hawaii, was regarded by the Japanese as the "sentry for Hawaii," too valuable an asset for the Americans to lose without a fight.

Yamamoto's plan—which included an attack in the Aleutians—was unprecedented in its complexity and scale, involving almost every combatant ship in the Japanese navy, almost 140 in all, along with dozens of support ships. The "teeth," however, were the four fleet carriers in Nagumo's Mobile Force—*Akagi*, *Kaga*, *Hiryu*, and *Soryu*.[1] Between them, these ships embarked around 270 planes, of which about 230 were operational (twenty-one land-based Zeros were being ferried for use on Midway after its capture.)[2] It was these four carriers, with their supporting ships, of the Mobile Force that were involved in what is popularly called the battle of Midway.

On the American side, Nimitz's code breakers had deduced the general outline and approximate date of Yamamoto's Midway operation. Nimitz, at Pacific Fleet headquarters at Pearl Harbor, planned to ambush Nagumo's carrier force. For this he had three carriers available—*Enterprise* (CV 6) and *Hornet* in Task Force 16, under the command of Spruance, and *Yorktown* (CV 5) in Task Force 17, under Rear Admiral Frank Jack Fletcher. (*Yorktown*, damaged three weeks earlier in the battle of the Coral Sea, had been hastily repaired.) The three ships collectively carried 234 planes, of which 221 were operational.[3] In addition, there were about eighty land-based combat planes and thirty-two PBY flying boats for reconnaissance on Midway itself. Thus Nimitz actually had more planes at his disposal in the immediate arena of the battle, but Nagumo's planes could deliver far more effective firepower, and his pilots were much more experienced. If the Americans were to have a reasonable chance of winning, their planes had to strike Nagumo's carriers before they

could launch their own attack against the American carriers. That, of course, is exactly what happened—but just barely.

Had the Japanese gotten their attack launched, they stood a very good chance of winning the battle. They possessed a deadly ship-sinking weapon—an aerial torpedo that was very accurate and reliable, and so fast it was difficult to evade. The American aerial torpedo at that time in the war was unreliable and slow—it essentially did not work. Nor did the American navy have armor-piercing, delayed-fuse bombs that could penetrate into the bowels of a ship before exploding, as the Japanese had.[4] The bombs carried by the American carrier dive-bombers were short-fuse, high-explosive bombs that could destroy a large aircraft carrier only if it was caught in its most extreme condition of vulnerability—with decks crammed with planes fully fueled and laden with bombs or torpedoes. But that was how the three Japanese carriers were caught. They were destroyed more by fire from their own gasoline and secondary explosions from their own ordnance than by any fatal structural damage inflicted directly by the American bombs.

What, mercifully for the Americans, went wrong for the Japanese at Midway? The American carrier attack, which Nimitz intended to be an ambush, a surprise attack, was in fact no ambush. The American naval presence in the Midway area had been discovered by a Japanese search plane—the infamous "*Tone* 4"—on the morning of 4 June, at 0728, almost three hours before the fatal bombing at 1025 by American dive-bombers from the carriers *Enterprise* and *Yorktown*.

Why could the Japanese not get an attack launched before 1025? This has been one of the most perplexing mysteries of World War II. In the more than half-century since then, no satisfactory account has

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been published of those three hours on the Japanese side of the battle; on close examination, it appears that most of what is generally believed to have happened in fact never did. Admiral Nagumo and his staff were not the fools they have been made out to be, and the *Tone* 4 search-plane pilot who discovered the American fleet was not the myopic, absent-minded incompetent that he has been portrayed as being. Mistakes were certainly made by the Japanese—there are plain reasons why the battle was lost—but they were not idiotic mistakes, as is commonly implied.

The Standard Scenario. Most of what is now popularly "known" about the Japanese side of the battle, as evidenced in books, films, and television documentaries, comes from a series of books published soon after the war.[5] These early books fixed in the popular mind a "standard scenario" of what happened on the Japanese side of the battle, which more recent movies and novels have presented vividly: a befuddled Nagumo refuses to accept the reality of the situation, "dithers," and then in a series of blunders throws away any chance he had of countering the American carrier threat.[6]

Fact and Fiction

Why could no attack be launched before 1025? The problem that prevented an immediate response to the discovery of the American carrier fleet is well known: at 0715, less than fifteen minutes before the American fleet was discovered, Nagumo had ordered the rearming of his torpedo planes and dive-bombers for a second strike on Midway. (The first strike had been launched at 0430 with 108 planes, thirty-six each of the torpedo, dive-bomber, and Zero types. A second wave, of equal numbers but intended—and armed—to attack ships, had been brought up to the flight decks of the four carriers.) The planes were struck below to the hangar decks: the torpedo planes (on *Akagi* and *Kaga*) were to be reloaded with eight-hundred-kilogram land-type bombs in place of torpedoes, and the dive-bombers (on *Hiryu* and *Soryu*) with 242-kilogram high-explosive fragmentation bombs instead of 250-kilogram, armor-piercing antiship bombs.

The rearming of the torpedo planes with land-attack bombs contravened a standing order by Yamamoto that half of the torpedo

planes in Nagumo's Mobile Force were always to be fitted with torpedoes, on standby in the event an American carrier fleet showed up at Midway.[7] Nagumo justified his decision on grounds that the first-wave commander had notified him by radio at 0700 that Midway had not yet been neutralized and that a second strike was needed. As the Mobile Force was then under attack by torpedo bombers from Midway, this recommendation was given heightened force. Also, the fact that no American ships had been discovered after two and a half hours of search tended to confirm Nagumo's belief that there was no enemy carrier threat in the area.

Moments after this fateful decision, the crew of a float plane launched by the cruiser *Tone*—designated *Tone* 4—discovered elements of the American fleet. The sighting report was transmitted in telegraphic code at 0728: "Sight what appears to be 10 enemy surface ships, in position bearing 10 degrees distance 240 miles from Midway. Course 150 degrees, speed over 20 knots."[8] No mention was made of carriers. The earliest commentators on the battle assumed that this report was received directly by the radio room of Nagumo's flagship, *Akagi*, and thus by Nagumo, at around 0730.[9] Later authorities, however, accept that it was relayed to *Akagi* several minutes later by the plane's mother ship;[10] they suggest that the admiral received the sighting report around 0740.[11] In any case, it was presumably necessary to attack the U.S. ships as rapidly as possible—but the only aircraft available to attack them were being rearmed with specialized land-attack weapons. According to the standard scenario, Nagumo, after regaining his composure, responded with an order at 0745 that the rearming operation be "suspended."[12] In this view, at 0745 the rearming crews were about halfway through their task, with about half the torpedo planes still armed with torpedoes.[13]

The official Japanese government history of World War II (known as *Senshi Sosho*), in its volume on Midway, published in 1971, agrees that *Tone* 4's sighting report was received by Nagumo indirectly, through the cruiser, shortly before 0745, but it takes a different position as to the nature of his countermanding of the 0715 rearming order. It contends that at 0745 the rearming operation was reversed—not merely suspended.[14] (The only recorded text of that order is ambiguous: "Prepare to carry out attacks on enemy fleet units. Leave torpedoes on those attack planes which have not as yet been changed to bombs.")[15]

At 0800, fifteen minutes after Nagumo supposedly issued his countermand order, the Mobile Force came under attack by sixteen Dauntless dive-bombers from Midway, quickly followed at around 0815 with an attack by fourteen B-17s. No hits were scored, but the radical, high-speed maneuvering by the carriers to evade the bombs

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[N]o satisfactory account has been published of those three hours on the Japanese side of the battle; on close examination, it appears that most of what is generally believed to have happened in fact never did.

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made further rearming of the torpedo planes practically impossible. At 0820 the crew of *Tone* 4 finally identified a carrier in the American task force; this report was received by Nagumo at 0830. In the meantime, the Midway strike force had returned; many of its planes were shot up and in distress, and it requested an immediate landing.

At 0830, Nagumo was faced with a second fateful decision: whether to launch immediately an attack against the American carrier force with the aircraft then ready or to postpone his attack until after the Midway strike force had been landed and his second-wave torpedo planes had been rearmed with torpedoes. He chose to postpone. Under the standard scenario the attack was, soon after this time, scheduled for launch at 1030—a postponement of two hours.[16]

This decision has been roundly criticized. According to the standard scenario—in which the rearming operation was "suspended" by Nagumo at 0745—roughly half the torpedo planes were in the hangar decks and still had torpedoes attached at 0830; most of the other half were on the flight decks, rearmed with eight-hundred-kilogram high-explosive bombs. All thirty-six of the second-wave dive-bombers were properly armed for attacking ships and on the flight decks of *Hiryu* and *Soryu*.[17] It is said that a reasonably adequate attack could have been made at 0830 with those resources. Also, it is pointed out, the absence of those planes, loaded with fuel and ordnance, from the flight decks of the carriers at 1025 would have greatly reduced the damage inflicted on them by the American dive-bombers from *Enterprise* and *Yorktown*.

Nagumo's decision to forgo a limited attack at 0830 in favor of a later "grand scale" attack (as he called it) more worthy of the Imperial Japanese Navy is largely attributed, by the standard scenario, to

hubris, arrogance, and contempt for the capabilities of American naval pilots—attitudes constituting what has been called "victory disease," resulting from the previous string of successes by the Japanese navy.[18] However, all commentators agree that there were no Zeros available at 0830 to escort the attack planes. Those originally assigned to the second wave had been diverted to the combat air patrol to fend off the series of attacks from Midway, and their fuel and ammunition were mostly depleted by 0830.

Given the standard scenario's depiction of the armament status of the planes, its explanation for the postponement was troubling. A brief postponement might have been justified until some Zeros could have been landed, rearmed, and refueled, but a two-hour postponement does not make sense. Nagumo was aware that his Mobile Force had been discovered by American search planes three hours earlier;[19] by 0830 an attack from carriers should have seemed imminent.

As for any contempt he might have had for the abilities of American naval pilots—said to have been based on the pathetic performance he had just witnessed in the attacks from Midway—Nagumo and his staff should have been aware that American carrier pilots were substantially better than American land-based pilots at that time in the war. Just a month earlier, at the battle of the Coral Sea, American carrier pilots had managed to sink a Japanese light carrier and severely damage the "super-carrier" *Shokaku*. Even if Nagumo's judgment was in fact impaired by "victory disease," there is no evidence that Commander Minoru Genda, his staff air officer, whose advice on such matters was practically dispositive, was similarly afflicted.

What really casts doubt on the standard scenario's account is a more fundamental mystery: why was an attack not launched before 1025, when the first bombs hit Nagumo's carriers? If the rearming operation on the torpedo planes was halted at 0745—just a half-hour after it had been ordered—and even if restoring the torpedoes to the half of the planes from which they had been removed did not begin until 0830, surely the torpedo squadrons on *Akagi* and *Kaga* could have been made ready for launch well before 1025. If the rearming operation was actually reversed at 0745, as *Senshi Sosho* has it, this dilatoriness is even more incredible.

This, then, is the nub of the problem: why could not what had been done in thirty minutes be undone in less than two hours? A timely reloading of the torpedoes should have been possible, even though for much of the two hours after 0830 the Mobile Force was recovering the Midway strike force and fending off attacks by carrier-based torpedo bombers. Under the standard scenario's account of their armament status (and as will be seen below), there simply was not much left to do.

The problems with the official Japanese version of the scenario are still worse: according to it, the rearming operation was not just merely suspended at 0745 but reversed. If so, then more than half of the torpedo planes on *Akagi* and *Kaga* should have had torpedoes attached at 0830, and some of them, it would seem, would have been brought up to the flight decks to replace aircraft rearmed with bombs. (It would also seem that those few still in the hangar decks could have been raised to the flight decks and launched without causing inordinate delay in landing the Midway strike force.)[20] In either view, all the dive-bombers on *Hiryu* and *Soryu* were armed to attack ships and on the flight decks ready to launch; with that much antiship armament available, the decision to postpone the attack should have been excruciatingly difficult. Yet a staff officer is reported in *Senshi Sosho* as recalling that it was "easily made."[21]

It is yet more incomprehensible under *Senshi Sosho*'s scenario that the torpedo planes were not ready to launch well before 1025. There would have been even less work remaining than in the American version of the story. It is true that the recovery of the Midway strike force was not completed until about 0920 on *Akagi*, and again, during much of the time between 0930 and 1000 the Mobile Force was maneuvering to evade two waves of American torpedo bomber attacks. But if the rearming operation was reversed at 0745, there would have been time to get the second-wave strike force spotted on the flight decks before 1000—when, as will be seen, there was a fifteen-minute window during which a launch could have been made without any harassment from the Americans.

Toward a More Plausible Scenario. It would seem, then, that Nagumo must have been facing problems more serious than have heretofore been realized. To find out what really happened on the Japanese side of the battle on that fateful morning of 4 June it is necessary to

examine the primary sources, the principal ones being Nagumo's official report and the action reports from the air groups of the four carriers in the Mobile Force.[22] The surviving records, however, are fragmentary (most of the ship's log books and battle diaries were lost in the war), ambiguous, and even contradictory. There are also secondary materials derived from them but supplemented by testimony from Japanese veterans of the battle.[23] More illuminating are the untranslated Japanese literature—principally the *Senshi Sosho* volume on Midway.

The indispensable sources, however, are the carrier air group veterans of the battle. Of the few who survived the war, many of them had been aircraft and weapons mechanics—the men who did the "heavy lifting" on the hangar decks—and most have never before been interviewed about what went on during the battle. These veterans give insights into Japanese carrier operations that point to reasons why Nagumo could not get an attack into the air in time.[24]

What Really Went Wrong?

The key to unlocking the mystery has been at hand for over fifty years but has generally been ignored. As noted, it is commonly assumed that the 0728 sighting report from *Tone* 4 was received by Nagumo before 0745 and that pursuant to it Nagumo suspended or reversed the rearming of his torpedo planes and dive-bombers at 0745. But Nagumo states very clearly, twice, in his official report that he did not receive that sighting report until about 0800.* His report complains that the delay in its delivery "greatly affected our subsequent attack preparations."[25] However, this claim has been almost universally rejected by historians—all American ones and most Japanese—because it is inconsistent with two entries in the composite message log of that same report.[26]

The first entry is Nagumo's order, logged at 0745, countermanding the 0715 rearming order. The second is a command, logged at 0747, by Nagumo to *Tone* 4 to "ascertain ship types."[27] These orders, of course, make no sense unless Nagumo had already received the sighting report. Morison, indeed, declares that Nagumo's claim that it was not delivered until 0800 was "belied" by his 0745

* All times in the official report, which are in Tokyo time, have been converted to Midway time, which is three hours later and on the previous day.

countermand order;[28] Morison's immense prestige early established a pre-0745 receipt time as fact, and from it the standard scenario of the rearming operation has proceeded.

But what if Nagumo did *not* receive the sighting report until 0800 as he claimed? The strongest evidence against that claim remains the

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It does not diminish the pride Americans can rightfully take in their victory to accept that Yamamoto, Nagumo, and the crew of Tone *4 were crafty and worthy adversaries.*

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two entries in the "composite log," but what if their times were erroneously logged? It is likely that they were and that those two orders from Nagumo were in fact issued later.

Evidence that they were issued later can be found in the composite log itself. Let us first examine Nagumo's order to *Tone* 4, logged at 0747, for identification of ship types. It is almost identical to an order logged at 0800 to "advise ship types." The standard scenario assumes that this was a repeated order; it portrays Nagumo as extremely irritated by the lack of response from *Tone* 4 and considers this entry as evidence of lackadaisical performance by the aircraft's crew.[29] *Tone* 4 did not respond to Nagumo's request for details until 0809, when it reported back that the "10 surface ships" consisted of five cruisers and five destroyers. Twenty-two minutes—from 0747 to 0809—is an inordinate length of time to take to respond to an Admiral's request and by itself casts doubt whether the request for details was sent as early as 0747. However, a nine-minute turnaround time for radio messages (from 0800 to 0809) would be more reasonable.

Could it be that the two orders to *Tone* 4 to identify ship types were one and the same and that the order was actually sent at 0800? If so, this would indicate that Nagumo did not receive the sighting report until around 0800.

In the composite log are numerous examples of messages logged more than once, and in which the earliest of two or more entries is not the correct one. Among them: Nagumo's message to his Mobile Force advising them to "Proceed northward after taking on your planes. We plan to contact and destroy the enemy task force." This is logged as having been sent at 0855 and again at 0905. However, in

the narrative portion of the report Nagumo states that he sent the message at 0905.[30]

Likewise, the report by *Tone* 4 sighting two additional cruisers in the American task force is stated in the narrative as having been received at 0840 but is logged in the composite log at 0830, 0845, and 0850. Thus there are substantial grounds for believing that the 0747 time for Nagumo's request for *Tone* 4 to "ascertain ship types" is erroneous and that 0800—which is consistent with Nagumo's statement in the narrative that he received the sighting report at about 0800—is actually the correct time the request was sent.

But what about the countermand order, which is logged only once and at 0745? There are also several examples in the composite log of events being logged at the wrong time, where the correct time can be established independently by American records of undisputed reliability. For instance, a Japanese search plane on a southeast course that took it near Midway radioed a report to the Mobile Force—logged at 0555—that "15 enemy planes are heading towards you."[31] Those planes were almost certainly a squadron of sixteen Dauntless dive-bombers from Midway. But they did not take off from Midway until after 0600 and did not form up into a group until around 0615.[32] Nor did any other group of planes—Vindicator dive-bombers, torpedo bombers, or fighters—take off before 0600 in response to the air raid warning at 0555. The only American planes from Midway that were in the air as a group at 0555 were a squadron of B-17s, which was over two hundred miles west of Midway. No group of planes could have been seen by that search plane until at least fifteen minutes after 0555.

Therefore, the time of Nagumo's order countermanding the rearming operation could also have been erroneously logged as occurring at 0745. It is more likely that it was issued after 0800.

The composite log was assembled from radio and other logs of the several ships in the Mobile Force; the *Akagi's* flag-bridge log had been lost. Its compiler noted that the entries were fragmentary and inconsistent and cautioned against placing too much credence on their accuracy.[33] Unfortunately, the early American scholarship on Midway—upon which the "standard scenario" is based—lacked the benefit of the caveat about the composite log's reliability and assumed that the times it gave for certain key events, such as the countermand order, were accurate. (The compiler's caveat appeared in

Senshi Sosho, which was not published until 1971—and then only in Japanese.) The narrative portion of Nagumo's official report, in contrast, is tightly written and internally consistent. The times it gives for key events deserve much more credence than they have been given—even allowing that Nagumo's account was likely to be somewhat self-serving.

In any case, Nagumo's claim is not the only direct evidence for an 0800 receipt time for the *Tone* 4 sighting report. That time has been supported by Ryunosuke Kusaka, Nagumo's chief of staff, and

Mistakes were certainly made by the Japanese—there are plain reasons why the battle was lost—but they were not idiotic mistakes, as is commonly implied.

Minoru Genda, his staff air officer.[34] They were on the bridge with Nagumo and, in view of the report's shocking nature, are likely to have made particular note of when they heard it. After the war neither of them wavered from their recollections that the sighting report was not received in Nagumo's headquarters until about 0800—even after it became widely accepted that the report was received before 0745.[35] Even if Nagumo's credibility can be questioned, that of Kusaka and Genda has not been challenged. After the war, Genda served a long tenure as head of Japan's Air Defense Force. He earned a reputation among American as well as Japanese officials and historians for candor, objectivity, and probity. His insistence, along with Kusaka's, on a receipt time of 0800 is entitled to be given a great deal of weight.[36]

We may postulate, therefore, that Nagumo did not learn of the presence of American ships in the Midway area until about 0800 and that the operation to rearm the torpedo planes with land-type bombs continued until that time. This factor, as Nagumo claimed in his official report, did indeed have a profound effect on his ability to launch an attack against the American carrier force. It provides the key to cracking the two central mysteries of Midway: why no attack was launched at 0830—after the presence of an American carrier had been confirmed and before the Midway strike force was landed—and, more importantly, why the torpedo planes were not ready before the Japanese carriers were bombed at 1025.

As has been seen, under the standard scenario, the decision at 0830 whether to launch an attack or postpone would have been a close call. If, on the other hand, Nagumo did not receive the *Tone* 4 sighting report until 0800, the armament status of his torpedo planes would have been radically different: by then, all the torpedoes would have been removed. Moreover, they could not have been immediately reattached—because at 0800, as noted, the dive-bombers from Midway began their attack, followed by the B-17s, and until the attacks were over at 0830 the carriers were forced to maneuver radically; sharp turns and a heeling deck made the lifting involved impracticable. There were probably a few torpedo planes armed with eight-hundred-kilogram land-type bombs, but as the Kate torpedo plane could not dive-bomb, these were of little use against ships at sea. Add to all this the fact that there were no Zeros available to escort an attack group, and it is easier to understand why Nagumo found it unpalatable to delay the recovery of the Midway strike force while sending off the dive-bombers alone. More importantly, the very different armament status of the torpedo planes at 0830 makes it easier to understand why no launch took place before 1025.

The Rearming Operation. The torpedo planes could not have been rearmed in time for a pre-1025 full-strength launch if Nagumo did not receive the *Tone* 4 sighting report until 0800; conversely, however, they could have been had he received it before 0745, as generally claimed. To see why, let us examine the procedure of rearming the torpedo planes.

First, changing torpedo planes from torpedoes to eight-hundred-kilogram land-type bombs took much longer than commonly assumed. It has been stated by most American commentators that it took about one hour; that, however, was the time it usually took to arm a squadron of *empty* torpedo planes with torpedoes or bombs. This was the usual situation. Rearming from torpedoes to land-attack bombs, however, was highly unusual for the Japanese; in fact, they had done it only once before Midway, in an experiment conducted on *Hiryu*. It had been found to take one and one-half hours to change a squadron of torpedo planes from torpedoes to eight-hundred-kilogram land bombs (providing the bombs were already in the hangar deck) and two hours to change back from land bombs to torpedoes.[37]

When the order to rearm the second wave for a repeat strike on Midway was issued by Nagumo at 0715, the torpedo planes had first to be lowered to the hangar deck. As the carriers were still under attack by torpedo bombers from Midway, the striking below probably did not begin until about 0720.[38] It took about seven minutes for the first plane to be rolled to the elevator, positioned, lowered, and manhandled to its arming station in the hangar deck. Thereafter, as two elevators were used, planes arrived at their stations at about one-minute intervals. Accordingly, it took about twenty-five minutes to lower and position at their arming stations a squadron of eighteen torpedo planes. However, the weapons mechanics did not wait until all the planes were in the hangar deck; as each plane arrived at its station, the work began.[39]

The rearming procedures were performed neither on all eighteen planes simultaneously nor one at a time, as has respectively been stated by some commentators. Rather, the torpedo planes were rearmed in shifts—by *chutai* (divisions) of probably six on *Akagi*, possibly nine on *Kaga*. There were only enough ordnance mechanics and, especially, enough heavy-weapon "carrier cars" (wheeled ordnance-carrying carts, equipped with jacks) in a squadron to rearm a division of aircraft simultaneously.[40] (*Kaga*, with its larger squadron of twenty-seven torpedo planes, had more weapons mechanics and carrier cars than *Akagi*.) As each plane in a *chutai* reached its arming station, its torpedo was disarmed, disengaged from its release mechanism, and lowered on the jacks of the carrier car. This took about five minutes—until the twelfth minute into the overall operation for the first aircraft, the seventeenth for the last aircraft in *Akagi*'s first division. Thus it can be seen that almost nothing had been done to disarm the torpedo planes by 0728, when *Tone* 4 sent its sighting report, especially if the operation did not begin until the American torpedo bomber attack was over at 0720. Had Nagumo learned of that report by 0730, as claimed by the earliest accounts, his 0715 rearming decision would have been quickly and entirely reversible.

But to continue: after the torpedo had been disengaged and lowered, it was rolled on the carrier car to a heavy-weapons rack, where it was deposited; this took about another five minutes. Before a bomb could be attached to the plane, it was necessary to replace the "launcher," the ribbed rack on the belly of the plane to which external ordnance was attached. (Japanese torpedoes were long and

slender, but the eight-hundred-kilogram land-type bombs were short and stubby.) The torpedo launcher had to be unbolted and replaced with a bomb launcher, a procedure that took surprisingly long—about twenty minutes. While this was being done, the carrier cars used for the first division of the squadron were available to remove the torpedoes from the planes in the second.

It has become accepted, however, that Nagumo did not receive the sighting report at 0730, in fact not before 0740—twenty (or twenty-five) minutes into the rearming operation. When the rearm-

This, then, is the nub of the problem: why could not what had been done in thirty minutes be undone in less than two hours?

ing operation was (supposedly) countermanded at 0745, what was the armament status of the torpedo planes?

The procedures described, continued up to 0745, would have resulted (on *Akagi*) in the removal of torpedoes from all six planes of the first division and from some in the second division. Specifically: the torpedo from the sixth plane would have been removed, as calculated above, at about 0737, at which time the torpedo from the first plane would have been deposited on the weapons rack; that car would have been available to remove the torpedo from the first plane of the second division. Assuming one minute to roll it to the plane and that additional cars were released from the first division at one-minute intervals, the torpedo from the first plane of the second *chutai* would have been removed at around 0743, and from the third around 0745. Thus, at 0745 nine torpedoes—give or take one or two—would have been removed from *Akagi*'s torpedo plane squadron.

On *Kaga*, the rearming schedule is less certain. It had twenty-seven torpedo planes, but it appears that perhaps only eighteen in the original second-wave formation had been armed with torpedoes, with the remaining nine—with less experienced crews—held in reserve in the hangar deck, unarmed. (All twenty-seven were later committed to the attack scheduled for 1030.)[41] If only eighteen were stricken below pursuant to the 0715 rearming order and they were rearmed nine at a time, then somewhat more than nine *Kaga* torpedo planes could have had their torpedoes removed by 0745. In any event, it is fair to assume that about half the torpedo planes on both carriers

still had their torpedoes at 0745, as claimed under the standard scenario. However, this does not mean that the rearming operation was half completed, as claimed; it was less than a third completed—there just had only been time to remove half the torpedoes. Also, no land bombs had been attached to the torpedo planes by that time (as claimed by some commentators, who apparently assume a one-at-a-time rearming procedure.)[42] None could have been: at 0745, the launchers were still being changed on the torpedo planes of each carrier's first division.

It should thus be apparent that if the rearming operation was reversed at this point—at 0745—it would not have taken much time to restore the torpedoes on the half of the planes from which they had been removed and respot all the planes on the flight decks of the two carriers, perhaps only about thirty minutes. But as we have seen, according to the standard scenario Nagumo did not reverse it; he only suspended it. The reason for this, it is said, is that he did not suspect that carriers were among the "10 surface ships" reported by *Tone* 4 and wanted more information regarding the precise composition of the American force.[43] However, it is almost certain that Nagumo did suspect the presence of carriers. One member of his staff is reported as having doubted it, but Kusaka (Nagumo's chief of staff) and probably Nagumo himself realized that there would be no good reason for so many American ships to be at Midway unless they were a carrier task force.[44]

If the rearming operation could have been easily reversed at 0745, by 0800 (when, as we have concluded, *Tone* 4's sighting report was actually received) the prospects had become much grimmer. It would have taken a few minutes for Nagumo to make the decision and get it to the rearming crews in the hangar decks of *Akagi* and *Kaga*. *Senshi Sosho* (which assumes a pre-0745 receipt time) reports a deliberation by Nagumo as to whether the rearming should proceed to completion and an attack against the American fleet be made by bomb-laden torpedo planes, or whether it should be reversed, restoring the torpedoes. It was decided that torpedoes should be restored—as level bombing by torpedo planes against moving ships had been proved to be very ineffective in comparison with torpedo attacks.[45]

Such a deliberation would seem needless at 0740, when the rearming operation could have been quickly reversed. However, by

0800—when restoration of the torpedoes may have taken longer than completing the change to land bombs—Nagumo's options would have been more complex. Adding to the complications were the beginning of the dive-bomber attack from Midway and the return of first elements of the Midway strike. In the end, the decision was made to reverse the rearming operation, but given how busy things were just then, it may have taken a while to reach. There may, how-

The key to unlocking the mystery has been at hand for over fifty years but has generally been ignored.

ever, have been a fairly quick interim decision to suspend the rearming operation, but it seems likely that no order was issued to the rearming crews until at least five minutes after receipt of the *Tone* 4 sighting report.

What was the likely armament status of the torpedo planes at 0805? To continue the rearming sequence from 0745: the torpedo on the last plane of the second division on *Akagi* would have been removed and deposited on the heavy-weapons rack by about 0753—the twelfth of the eighteen planes to be stripped of their torpedoes. By that time, the bomb launcher would have been installed on the first plane of the first division, and the carrier cars would have been available to begin installing land bombs on the planes of that division. Actually, however, it would have been more efficient at that point to use the carrier cars to remove the torpedoes from the third, and last, division of planes; time being of the essence, that was probably done. In such a case, the carrier car used to remove the torpedo from the first plane of the second division could have been positioned under the first plane of the third division around 0749, and the torpedo removed five minutes later. The torpedo from the last torpedo plane on *Akagi* would have been removed by around 0759 and deposited on the rack about five minutes later. In the meantime, the carrier car used to remove the torpedo from the first plane of the third division would have become available to transport a land bomb to the first plane of the first division around 0800.

Thus at 0805, none of the torpedo planes on *Akagi* had torpedoes attached; launchers had been changed for land bombs on about two-thirds of them (and torpedo launchers removed from most of the remainder); and land bombs were being trundled to about

one-third of them. On *Kaga*, if only eighteen torpedo planes were being rearmed, nine at a time, things would have been even more advanced: not only would all the torpedoes have been removed, but a few of the planes would have had land bombs installed. The restoration of torpedoes on those planes would have taken even longer than on *Akagi*.

These exact-seeming times are in fact only estimates, but the foregoing description is the likely armament status when Nagumo received the sighting report at 0800. Twenty minutes may not seem a long time, but given the nature of the rearming procedures and the timing of the American attacks, the admiral faced a far more complicated situation at 0800 than he would have at 0740.

If an order was issued by Nagumo to the ordnance crews at 0805, it is almost a moot point whether it was to reverse or merely suspend the rearming operation: the Mobile Force was under attack, and battle-speed evasive maneuvers made it almost impossible to move the 1,872-pound torpedoes, let alone reattach them.[46] (In any case, this could not be done until the launchers had been changed back.) About the only thing that could have been done between then and 0830, when Nagumo had to make his decision whether to attack or postpone, would have been to reinstall the torpedo launchers.

Events after the Decision to Postpone. The recovery of the Midway strike force began at 0837.[47] It had been delayed a few minutes by an attack by eleven more dive-bombers from Midway—the third attack since 0800. The *Akagi* dive-bombers were landed by 0859, and the Zeros, both from the Midway strike force and from the combat air patrol, were landed by 0918.[48] At 0917 the Mobile Force began turning to the northeast to close on the American carrier force. Thus, at about 0920 operations to respot the second-wave strike force on the flight decks could have begun, had the torpedo planes been rearmed with torpedoes. Had the countermand order been given at 0745, as the standard scenario holds, the torpedoes almost certainly would have been restored by 0920.

But the torpedo planes on *Akagi* and *Kaga* were not ready at 0920. All their torpedoes had been removed before the countermand order had been given after 0800. Also, although it had been over forty minutes since the air attacks on the Mobile Force had ceased, rearming could not have proceeded at full pace during that time: the Midway

strike force dive-bombers had to be stricken below into the same hangar decks as were occupied by the torpedo planes undergoing rearming. (The flight decks—which, of course, were not "angled," as flight decks are today—had to be cleared of dive-bombers so the Zeros could land and others take off for combat air patrol.) This evo-

> *Why, then, could not the aircrew see a carrier? . . . It is . . . likely that the* Tone *4 crew actually saw everything that was visible and that there* were *no carriers with those ten ships.*

lution did not prevent rearming operations on the torpedo planes, but as planes had to be jostled around to make room for the new arrivals in the cramped quarters, it slowed the process considerably. It can be roughly estimated that only about twenty minutes' worth of normal rearming work got done on the torpedo planes between 0837 and 0920. That would have been enough to get torpedoes back on half the planes, but at least another twenty minutes was needed for the remaining half. (It took longer to put torpedoes on a plane than to take them off.) On *Kaga*, with its twenty-seven planes, even more additional time was needed.

Thus, at 0920 on *Akagi* and *Kaga* there began for Nagumo what must have seemed one of the most frustrating races against time in naval history. For after just ten minutes of unimpeded rearming time, the first wave of American carrier-based torpedo bombers attacked at 0930—fifteen from *Hornet*, led by Lieutenant Commander John Waldron. The rearming operation again came to a halt as the carriers undertook desperate maneuvers to evade the torpedoes. This attack was quickly followed by a second wave of fourteen torpedo bombers from *Enterprise*. When it was over at 1000, about ten minutes of work still remained to rearm the last division of *Akagi*'s torpedo planes, and even more time was needed for *Kaga*'s. The torpedo planes that had been rearmed had been brought up to the flight decks, beginning around 0920, but at least a third remained in the hangar decks at 1000. By 1015, the rearming had probably been completed on *Akagi*, and the last torpedo planes were being brought up and spotted on its flight deck.[49] Had the whole strike force been ready to go at 1000, it, along with Zero escorts, could have been launched during this fifteen-minute window between attacks on the Mobile Force. But it was not, and at 1015 the window closed with the

arrival of a third wave of torpedo bombers. These were twelve planes from *Yorktown*.

Though these planes—like the previous two waves—scored no torpedo hits, the *Yorktown* torpedo bombers lured down to sea level the high-altitude combat air patrol. The Zeros previously on low-level patrol had run out of cannon ammunition while fending off the prior two waves of torpedo bombers. When Commander Clarence W. McClusky's two squadrons of dive-bombers from *Enterprise*, along with Lieutenant Commander Maxwell F. Leslie's squadron from *Yorktown*, showed up and began their dives shortly after 1020, there were no Zeros to oppose them. Nagumo had run out of time.

What about Nagumo's Dive-Bombers? Up to now almost no mention has been made of the second-wave dive-bombers on *Hiryu* and *Soryu*. The reason is that—in contrast to the torpedo planes, which obviously could not use torpedoes against land targets but also, as noted, could not hit moving ships with bombs—their armament status was not a problem in this drama. In fact, Nagumo's official report makes almost no mention of them in connection with the rearming operation. This led early commentators to believe that they were not included in the 0715 rearming order and thus remained armed with armor-piercing antiship bombs throughout the morning.[50] It is now clear, however, that in fact they were rearmed, along with the torpedo planes, for a second strike on Midway.[51]

It would have been irrational not to have rearmed them, first of all because dive-bombers would seem particularly effective for attacking airplanes on the ground—one of the main purposes of the second strike. There is a reason, however, why the dive-bombers did not affect Nagumo's ability to launch an attack against the American carrier force, either at 0830 or later: dive-bombers were more easily and quickly rearmed than torpedo planes. They carried bombs that were less than a third the weight of the torpedoes or eight-hundred-kilogram bombs carried by the torpedo planes. Thus, their bombs were more easily handled, and their manipulation was less impeded by the sharp swerving of the carriers maneuvering to avoid air attacks. Their launchers did not have to be changed to switch from antiship to land-type bombs. There were plenty of the smaller bomb dollies available, so the entire squadron could be rearmed simultaneously. Also, they could be rearmed on the flight deck as well as in the

hangar deck. (It appears that only half of each squadron was lowered to the hangar deck after the 0715 rearming order, thus saving elevator time.)[52]

Lastly, only two-thirds of each dive-bomber squadron had to be rearmed. This is because when Japanese dive-bombers were armed to attack ships, ordinarily about two-thirds of the aircraft carried armor-piercing bombs and one-third fragmentation bombs—which in this case they had already.[53] The instant-detonation, high-explosive fragmentation bombs (that is, land bombs) were used to knock out antiaircraft gun batteries and blow holes in flight decks. Because of all this, it took less than half as long to rearm the dive-bombers as it did for the torpedo planes.

The two-thirds of the dive-bombers on *Hiryu* and *Soryu* that had to be rearmed pursuant to the 0715 rearming order were most likely rearmed with land bombs before 0800. Most, if not all, of those had probably been changed back to armor-piercing bombs by very soon after 0830;[54] at least half of each squadron on *Hiryu* and *Soryu* was already on the flight decks at 0830. Moreover, even if less than the optimum number of dive-bombers had armor-piercing bombs attached, high-explosive fragmentation bombs were about as effective against carriers as armor-piercing ones. (The American dive-bombers destroyed the Japanese carriers with short-fused high-explosive bombs; the U.S. Navy lacked armor-piercing bombs at that time in the war.)

Why the Delay in Forwarding the Sighting Report? We have seen that the key to why Nagumo could not launch an attack before 1025 is that he did not receive the *Tone* 4 sighting report until about 0800. The obvious question, however, is why it took a half-hour to get that report to him. This does seem incredible. One of the reasons for the common assumption that Nagumo received the report around 0740 is that examination of the composite log shows that on average there was only about a ten-minute difference between the time a radio message was sent and the time it was received in Nagumo's command center. The average, however, includes many cases where messages were expected by the communications staff of the Mobile Force and thereby got expedited handling.

Initial sighting reports from search planes, however, are often not expected, and that was certainly the case with *Tone* 4's. But how could this one have taken thirty minutes? In this case, no detailed

reconstruction of the procedures is available to explain the delay fully, but the following factors account for most of it. First, the radio message was not received directly by *Akagi*'s radio room, which was not guarding the search plane's reporting frequency, but by the *Tone*. Second, *Tone* 4's report was sent not in plain language but rather in encrypted Morse code;[55] it would appear that the radioman was caught not fully prepared to decipher it. After it was taken to the bridge on *Tone*, it was relayed to *Akagi* by blinker (after catching the attention of a signalman who, apparently, was not expecting an urgent message). It was then transcribed and taken to Nagumo's flag bridge. Altogether, this added up to about thirty minutes.[56]

Subsequent messages from *Tone* 4 took much less time to reach Nagumo's command center. They were expected, so communications crews were standing by to speed their passage. Some were in plain language, and even those sent in code were more quickly decoded; all were sent without delay, by flashing light, from *Tone* to *Akagi*'s now-alerted signalmen. Thus, the time it took for those messages to get to Nagumo is in no way indicative of the time it took the initial sighting report to reach him.

Are there other initial sighting reports from that time in the war that can be used for comparison? There was one, the same day. It was sent in code by a search plane at 0530, but no report (and that, a retransmittal) was received until 0603 by the admiral for whom it was meant—Frank Jack Fletcher. Thirty-three minutes had elapsed—and the American commanders, unlike Nagumo, were *expecting* to find enemy carriers in the area.[57] In this light, the thirty-minute delay in relaying the *Tone* 4 sighting report is not as anomalous as it first appears.

The Decision to Postpone

At 0830, when Nagumo had to make a decision whether to launch an attack on the American force or postpone it, we have seen that he had ready no torpedo planes and no Zeros for escort. But he did have dive-bombers on *Hiryu* and *Soryu* available. They could have been launched fairly quickly and probably would not have delayed the landing of the Midway strike force long enough to cause serious plane losses from ditching (for lack of fuel). Indeed, Rear Admiral Tamon Yamaguchi, commander of the Second Carrier Division (containing

Hiryu and *Soryu*), urged Nagumo to do just that.[58] He was fearful of an American carrier attack if the launch was postponed and believed that a limited attack was better than the possibility of none at all.

Nagumo chose to postpone. He did so not because he contemptuously disregarded any threat of an American carrier bomber attack—as portrayed by the standard scenario—but because he did not think that an effective attack could be made with the dive-bombers alone and thought he had time to organize a coordinated strike. Unescorted dive-bombers would be easy prey to American fighters over the target, especially without torpedo planes coming in at low level to split the American defenses. This would result, Nagumo believed, in unacceptable pilot losses with little chance of inflicting serious damage on the American carriers. Moreover, the torpedo planes, when he was able to send them, would be without those dive-bombers to divert American fighters and antiaircraft gunfire. The slow and low-flying torpedo planes would be even more vulnerable to undivided defenses than the dive-bombers, and their pilot losses correspondingly even worse.

Carrier pilot losses were much more costly for the Japanese than for the Americans. They had fewer carrier pilots, and it took longer to train replacements. Japan had begun the war with only about four hundred experienced, first-line carrier pilots.[59] If Japan was to have any chance of knocking the American carrier fleet out of the Pacific, it had to do it in the first year of the war—and largely with those carrier pilots already on hand. Thus, conservation of carrier pilots was a serious concern for Nagumo; it was another factor that persuaded him that the better option was to postpone his attack until a coordinated attack with Zero escorts could be organized. The problem with this, of course, was time.

What Made Nagumo Think He Had the Time? At 0830, Nagumo knew that his Mobile Force had been discovered by the Americans and that there was at least one American carrier in the area—probably two or three. One would think that an attack from them should have seemed imminent. What made him think he had the time to land the Midway strike force and then organize a coordinated attack? We know that his attack was scheduled for 1030, two hours after the decision to postpone. Did he really think he had two hours?

First, it is now clear that he did not schedule the 1030 launch at the time he made the decision to postpone at 0830. His official report indicates that at 0830 Nagumo thought that a coordinated attack could be launched very soon after the Midway strike force was landed.[60] The report also shows that it was around the time those landings were completed—about 0920—that Nagumo was informed by his carrier air group commanders that the torpedo planes on *Akagi* and *Kaga* would not be ready for launch until 1030.

But, even so, Nagumo at 0830 had been assuming that he could get an attack in the air by soon after 0930. The question still remains: what made him think he had even *one* hour? Perhaps surprisingly, there actually was reason to believe he had that much time. The 0728 *Tone* 4 sighting report had given the location of the American ships as "10 degrees distance 240 miles from Midway." This was quickly calculated by Nagumo's staff to be a little over two hundred miles from the position of the Mobile Force at that time (see the search and course chart). This was judged too far away for a bomber attack to be escorted by the short-legged Wildcat fighters.[61] Nagumo's staff knew that the Mobile Force was well within the range of the Dauntless dive-bombers, but it apparently believed the Wildcat's combat radius was only about 175 miles.[62] Nagumo and his staff thus believed that the Americans had only two options at 0728, both of them favorable to the Mobile Force: wait until their carriers had steamed at least twenty-five miles closer to the Mobile Force, which would take about an hour, or attack without fighter escorts.

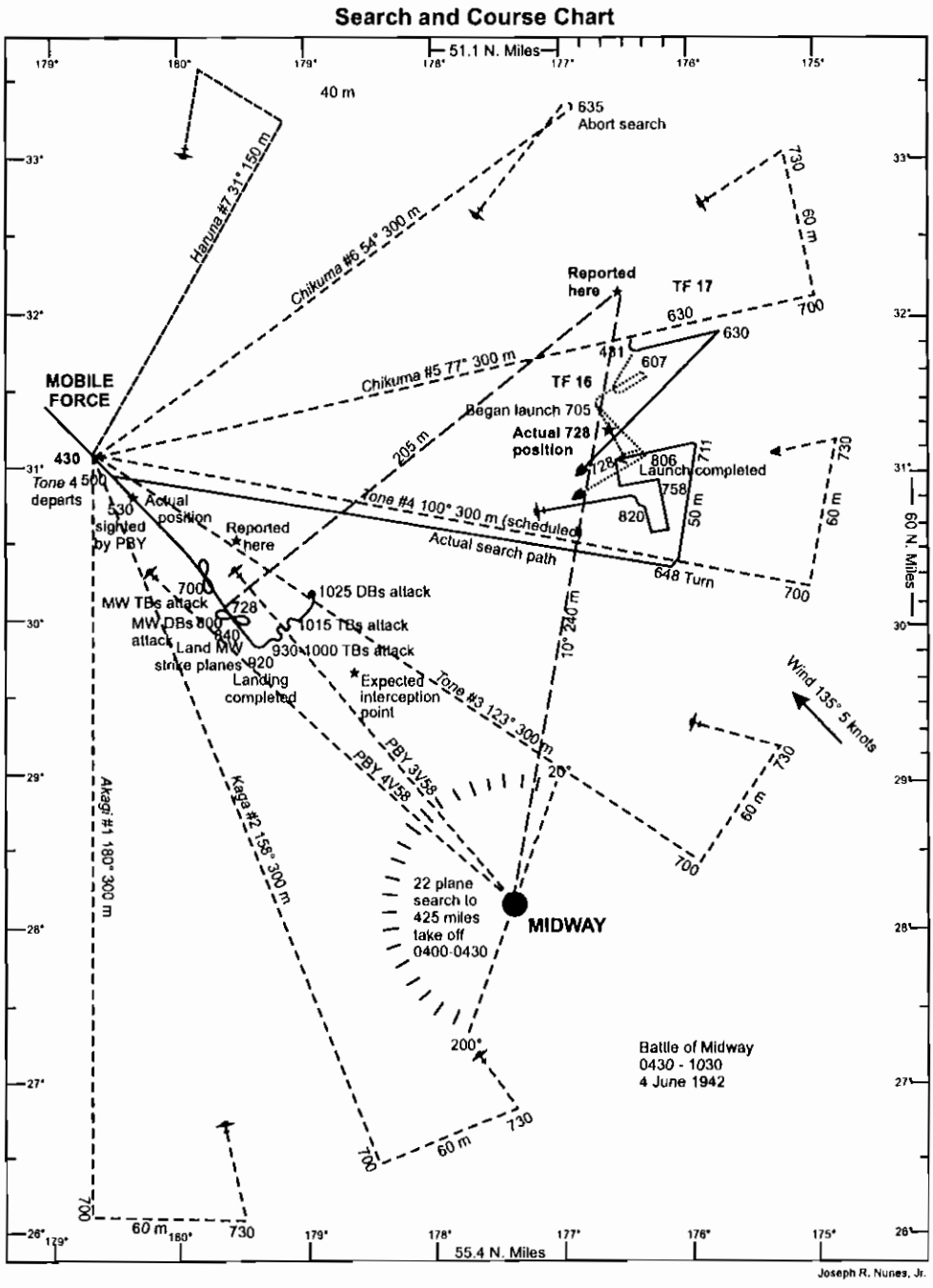
Under the first option, the Americans would not begin their launch until after 0830; it would take time to launch and form up the squadrons and then about an hour and a half for them to reach the Mobile Force. Nagumo appears to have concluded that he would have until after 1000 to get his own attack launched. Under the second option, it was thought that an American bomber attack without fighter escorts would be easy meat for the Zeros on combat air patrol and that the Mobile Force would not, therefore, sustain serious damage. (Nagumo had just declined to send his own dive-bombers off alone for this very reason.) It is likely, then, that Nagumo counted on his American counterpart delaying a launch until an escorted attack could be made—until after 0830. Nagumo took a calculated risk in postponing his attack, but the odds looked fairly good.

There was one horrendous problem with Nagumo's calculation: *Tone* 4's navigator had mislocated the position of the American task force. It actually was about fifty-five miles farther south than reported and thirty miles closer to the Mobile Force—only about 175 miles away at 0728.[63]

It is not known why *Tone* 4's crew thought the American ships were fifty-five miles farther north, relative to Midway, than they actually were. It has been suggested that *Tone* 4's navigational charts were erroneous, or that because the float plane was brand-new perhaps its navigational instruments had not been properly calibrated.[64] (Another possibility, not mentioned in the Japanese literature, is simple error in plotting distance on the chart the aircrew was using—not adjusting distances for distortion due to the projection as positions advanced to the north. It is known that the crew was inexperienced at reconnaissance.)[65] In any event, the American ships were only 185 miles north of Midway—not the 240 reported—and Nagumo made a crucial decision to postpone based, in part, on his calculation that this put them thirty miles farther away than they actually were.

The aircrewmen of *Tone* 4 made a navigational error, but it is not clear that it was their fault, and in any case, they were not alone to blame for its consequences. The error should have been noticed in the cruiser *Tone*, to which they were reporting; the report placed the American task force over a hundred miles north and sixty miles west of where *Tone* 4 should have been at that time. A request to *Tone* 4 for a direction-finding radio transmission would have revealed its approximate distance north of Midway. In fact, someone on Nagumo's flag bridge must have later noticed that something was wrong with *Tone* 4's location report, because at 0854 such a transmission was requested by Nagumo.[66] But by that time his decision had already been made, and the Mobile Force was halfway through recovering the Midway strike force.

It would be a mistake, however, to assume that Nagumo based his decision to postpone solely on *Tone* 4's sighting report. As we have seen, there were other reasons—primarily the armament status of his planes—that made an 0830 launch unappealing. His calculation of the distance of the American fleet from the Mobile Force was just one factor in the decision. But it explains why Nagumo thought he had time to organize a "grand scale" attack, and it is one of the


Search and Course Chart
51.1 N. Miles
55.4 N. Miles
60 N. Miles
40 m
635
Abort search
Hanuna #7 31° 150 m
Chikuma #6 54° 300 m
Chikuma #5 77° 300 m
Reported here
TF 17
TF 16
630
700
730
60 m
607
MOBILE FORCE
430
Tone 4 500 departs
Began launch 705
Actual 728 position
205 m
806
Launch completed
758
711
820
50 E
60 E
Tone #4 100° 300 m (scheduled)
Actual search path
648 Turn
530 sighted by PBY
Actual position
Reported here
700
MW TBs attack
728
MW DBs attack
800
840
Land MW strike planes
920
Landing completed
1025 DBs attack
1015 TBs attack
930-1000 TBs attack
Expected interception point
Tone #3 123° 300 m
240 m
Wind 135° 5 knots
PBY 3V58
PBY 4V58
Kaga #2 158° 300 m
Akagi #1 180° 300 m
22 plane search to 425 miles take off 0400-0430
MIDWAY
200°
Battle of Midway
0430 - 1030
4 June 1942
Joseph R. Nunes, Jr.

reasons why, according to a staff officer's recollection, the decision to postpone was "easily made."

Ironies

Nagumo believed that the American carrier force was too far away at 0728 to be able to launch an escorted attack against him at that time because he reckoned that the Wildcat's combat radius was less than two hundred miles. From this he concluded that the Americans would either have to send bombers without fighter escorts, making them easy to defend against, or delay their attack until they got closer to the Mobile Force. The assumptions Nagumo made from the erroneous *Tone* 4 sighting report are laden with irony.

The problem for Spruance at Midway was not so much the range of the Wildcat but that of the Devastator torpedo bomber. Although the Wildcat's combat radius was less than two hundred miles, that of the Devastator was even shorter—under 175 miles.[67] Spruance had indeed delayed his launch until he thought he was close enough to the Mobile Force to give his torpedo bombers a decent chance of returning to their carriers. He had wanted to launch an attack very soon after he received the sighting report at 0603 locating the Mobile Force, but he waited until 0705 to begin his launch.[68]

However, Spruance was also misled by an erroneous sighting report. At 0705, he had judged his distance from the Mobile Force to be 155 miles, based on its position and course given in the 0603 sighting report.[69] The Mobile Force was actually forty miles farther to the northwest, which put it about 182 miles—not 155—from Spruance's carriers. This twenty-seven-mile difference (which is about the magnitude of *Tone* 4's thirty-mile error) would have required another hour of steaming to make up.

The great irony here is that if the American sighting report had been accurate, Spruance probably would have further delayed his launch in order to get closer to the Mobile Force—just as Nagumo had hoped. He may not have delayed another full hour, as he was eager to hit the Japanese carriers before they could launch an attack against him. But he very well may have delayed for another fifteen to twenty minutes to get to within 175 miles so his torpedo bombers would have at least a chance of returning from their mission. In such a case, McClusky's dive-bombers probably would have arrived over

the Mobile Force later—perhaps at around 1040 instead of 1022—giving Nagumo time to have gotten most of his "grand scale" attack launched.

The second irony is Nagumo's assumption that if the Americans attacked before he was able to get his own attack launched, the American attack would be by unescorted bombers and thus be easy to fend off with his combat air patrol. Though not intended by Spruance, it did indeed turn out that none of the three squadrons of dive-bombers that arrived over the Mobile Force at 1022 had any fighter escorts. The escorts sent had either gotten lost or had been misdirected because of communications failures. But Nagumo's assumption that unescorted dive-bombers would be easily disposed of by his combat air patrol did not take into account that none of the Zeros he relied on would be there to meet them. By the time the American dive-bombers arrived, the only Zeros left at high-altitude patrol after the first two waves of Spruance's torpedo bombers had attacked had been drawn down to defend against the torpedo bombers from *Yorktown*.

Myths and Misconceptions

It is widely assumed that Nagumo's rearming dilemma could have been avoided had his search operation been better. According to the standard scenario, with a more extensive and diligent search effort the American fleet would have been discovered before 0715 and, thus, Nagumo would not have given the fatal order at 0715 to rearm his torpedo planes for a second strike on Midway. Three charges have been leveled. First, had the search plan involved more aircraft and thus more density of observation, a search plane probably would have discovered the American ships on its outbound search path—before 0700.[70] Second, even with the same search plan, had the *Tone* 4 plane been launched on time, at 0430 instead of 0500, it would have discovered the American ships a half-hour earlier—at around 0700 instead of 0728.[71] Third, even with the 0728 discovery, had *Tone* 4's crew been more observant it would have seen an aircraft carrier and reported it in the initial sighting report rather than not identifying it until 0820. This, it is said, would have given more urgency earlier on to Nagumo's measures to counter the American carrier threat.[72]

These are all myths. The reality contains even more ironies, and a paradox.

The Search Plan. It is true that the density of Nagumo's search plan was skimpy, especially compared with that employed by the Americans at Midway. He used only seven planes to cover an arc of 160 degrees, where the Americans used twenty-two planes to cover an arc of 180 degrees (see the chart). It should be realized, however, that the Americans were expecting the Mobile Force to be in the area—thus, their purpose was to locate it as early as possible. Nagumo, on the other hand, was not expecting American carriers to be in the area. In fact, he was convinced, on the basis of information he had, that they could not be near Midway on the morning of 4 June. Accordingly, his search effort was merely precautionary—by which standard the plan was adequate.

But Nagumo's search plan made absolutely no difference in the outcome of the battle, in any case. The low search-line density did not cause the failure to discover the American fleet earlier. In point of fact, one of the Japanese search planes—*Chikuma* 5—flew almost right over an American carrier task force at 0630 (see the chart); it saw nothing, because of heavy low-level clouds.[73] (Weather on the search line to the north was even worse—another *Chikuma* search plane had to abandon the search at 0635 and turn back because of a storm in the area.)[74] Therefore, whether there had been fourteen search lines or even twenty-two, because of the cloud cover it is very unlikely that the American ships would have been seen much before 0728. As Nagumo lamented in his official report, "The weather of the day certainly was not a friend of our search planes."[75]

***The Late Launch of* Tone 4.** *Tone* 4's launch, scheduled for 0430, did not happen until 0500, because of engine trouble or problems with the catapult (it is not clear which). However, the result was not a delay in its discovery of the American ships. What we have here is a striking paradox: had *Tone* 4 been launched on time, a half-hour earlier than it was, it most likely would not have arrived at the point where it found the American fleet until over half an hour later than it actually did—not until after 0800 instead of 0728.

How can this be so? It is now clear that the reason *Tone* 4 was able to arrive in the vicinity of the American fleet at 0728 is that it had

shortened its route. It was supposed to fly three hundred miles easterly before turning on its sixty-mile dogleg to the north; instead, *Tone* 4 made that turn about sixty-five miles short (see the chart).[76] It ran onto the American ships very soon after it made its final turn at the end of the dogleg to head back to the Mobile Force. The shortcut took over 130 miles off its prescribed run—which, given its 120-knot cruising speed, reduced the time it took to reach that point by over an hour.[77]

It is not known why the pilot of *Tone* 4 shortened his course. He was not instructed to do so by anyone on the cruiser *Tone*, and neither he nor anyone else in his crew survived the war to explain. The best guess, however, is that he did so in an effort to make up the lost time caused by the late launch. Thus the late launch of *Tone* 4, instead of delaying the discovery of the American carrier force, appears to have resulted in those ships being discovered over half an hour earlier than they otherwise would have been. Actually, it was the only piece of luck Nagumo had that morning.

The Delay in Identifying a Carrier. When *Tone* 4 spotted elements of the American fleet at 0728, it reported only that it had seen "10 surface ships." To a request by Nagumo to identify ship types, *Tone* 4 replied at 0809 that the ships consisted of five cruisers and five destroyers. No carrier was identified until 0820—fifty-two minutes after the initial sighting report. It is widely assumed that had a carrier been reported to begin with, Nagumo's attack preparations would have been accelerated substantially. We now know that Nagumo had made no order at 0745 countermanding the rearming operation; nothing, then, could have been done before 0800 to counter an American carrier threat even if the initial *Tone* 4 report had mentioned a carrier. Still, it is not unreasonable to assume that had the initial report identified a carrier, the communications personnel might have got it to Nagumo a few minutes sooner—and considering how close he came to launching his attack before being bombed at 1025, every minute saved could have made a significant difference in the outcome of the battle.

As it is, there has been an almost universal assumption that *Tone* 4's crew was not up to par—some say hapless and incompetent—and that its apparent inability to distinguish an aircraft carrier from a cruiser was largely to blame for the subsequent debacle of the Mobile

Force.[78] But would a more keenly observant search plane crew have seen a carrier at 0728, or at least well before 0820? Probably not.

It is generally assumed by American commentators that *Tone* 4 made its initial sighting from a great distance, perhaps thirty miles, at which it was difficult to identify ship types.[79] Instead, it appears that *Tone* 4 was very close to the American ships.[80] They probably were seen through a break in the clouds, and their composition would have been easily discernable. This conclusion—supported by *Senshi Sosho*—is based on two factors. First, the ships could not have been seen at all from a great distance; the area was too cloudy at 0728.[81] Second, the *Tone* 4 report was precise about the course of the American ships—150 degrees. From thirty miles away, or even twenty, only a general direction could have been made out, such as "southeasterly."

Why, then, could not the aircrew see a carrier? *Senshi Sosho* is at a loss to explain, and it shares the view that the *Tone* 4 crewmen were sloppy observers.[82] It is more likely that the *Tone* 4 crew actually saw everything that was visible and that there *were* no carriers with those ten ships. *Tone* 4 probably sighted elements of Spruance's Task Force 16. It appears that *Enterprise* and *Hornet*, along with a cruiser (probably the antiaircraft light cruiser *Atlanta*, CL 51) and four destroyers, had begun soon after 0705, during the launch of their planes, to diverge from the rest of the task force—five heavy cruisers and five destroyers.[83] Also, there was fairly heavy cloud cover over the entire area of the task force;[84] it was only around 0730 that the clouds began to break up over the carriers. The ten TF 16 units, separated from and under less overcast conditions at 0728 than the carriers, were the ships *Tone* 4 saw.[85] (The aircrew apparently felt that because it saw no carriers and was in a great hurry to encode and transmit its initial sighting, distinguishing between cruisers and destroyers was not important.)

The main evidence that the carriers had become separated is *Tone* 4's 0820 report as given in the narrative of Nagumo's official report: that the ships previously mentioned were "accompanied by what appears to be a carrier in a position to the rear of the others."[86] This indicates that a carrier not with the group originally seen—probably *Hornet*, which completed its launch first—was now rejoining its main escorts. Another report from *Tone* 4 lends support. At 0758 the search plane radioed that the American ships had changed course to

080 degrees (from the original 150). This would make no sense for a carrier; planes were still being launched, and it is almost certain that Spruance's two carriers steered a course into the wind—around 135 degrees—until the launch was completed at 0806.[87] If, however, the ten cruisers and destroyers seen by *Tone* 4 had been diverging from the carriers by even fifteen degrees, by 0800 they would have been several miles to the west. They would naturally change course to the east near the end of flight operations to regain their prior positions with respect to the carriers.

It is probable, then, that *Tone* 4 accurately reported what it saw at 0728 and 0809, and that no carrier was visible to it until 0820 (by when the aircraft had retreated about thirty miles, at which range Task Force 16 detected it on radar).[88] Had *Tone* 4 not been found and pursued into clouds by fighters from *Enterprise* just after 0820, *Enterprise* would probably also have been seen. Even so, *Tone* 4's work was not over; at 0830 it reported that two more cruisers (probably in *Yorktown*'s task force) had been spotted and at 0855 that ten torpedo bombers (probably *Yorktown*'s twelve) were heading toward the Mobile Force.

Verdict on the Performance of the* Tone *4 Crew. Far from being the sloppy, myopic incompetents portrayed by the standard scenario, the crewmen of *Tone* 4 appear to have been very observant and even resourceful aviators. Although their navigation was faulty, without their shortcut some sixty-five miles before the end of their prescribed search path, the American ships would not have been discovered as early as they were. This fortuitous turn to the north cannot be attributed to mere navigational error; it was almost certainly intentional. Although the position the *Tone* 4 crew gave for the American ships was too far north by fifty-five miles, that position was almost exactly correct on the east-west axis (ten degrees from Midway), meaning that they appear to have known how far east they were. When they found the American ships, they not only reported what was visible but stayed in the area monitoring their discovery for almost one and a half hours—at considerable risk to their safety. They also sent back seven reports during that time. Compared with most other naval reconnaissance of that time in the war, this was an extremely diligent performance. All in all, rather than being condemned, they deserved to be commended.

The Real Mistakes That Cost the Japanese the Battle

As we have seen, many of the blunders that have been attributed to the Japanese at the battle of Midway are either mythical or the kinds of snafus one should expect in battle. Indeed, most of the operational blunders made by the two sides canceled each other out. The Japanese, however, made two high command–level mistakes that were egregious by any standard and, taken together, were to blame for the Japanese disaster. The first was a massive failure of communication; the second was rearming the torpedo planes. The communications failure was Yamamoto's fault, and it deprived Nagumo of vital information that might have precluded his own fatal blunder.

The Communications Failure. When Nagumo departed from Japan on 27 May, he and most of the Japanese naval high command believed that the Americans were completely unaware of the Midway operation. The Naval General Staff in Tokyo thought an American carrier task force was in the South Pacific. Back on 16 May, *Enterprise* and *Hornet* had been spotted by a Japanese search plane east of the Solomon Islands, where Nimitz had ordered their commander, Vice Admiral William F. Halsey, to allow them to be seen.[89] While they rushed back to Pearl Harbor the next day, Nimitz perpetrated a clever disinformation scheme involving phony radio traffic to convince the Japanese that the task force remained in the area.[90] As late as 1 June the staff was radioing to Yamamoto its "considered judgment" that an American carrier force was still in the South Pacific.[91]

On 20 May, Yamamoto had advised his subordinate commanders, including Nagumo, of his own estimate that the Americans had two or three carriers in the Hawaii area;[92] he appears to have believed that the two carriers in the South Pacific would have returned to home waters by the time of the projected operation.[93] This, then, is the information Nagumo had when his Mobile Force sortied: the Americans were unaware of the Midway operation, and their carriers would probably be at Hawaii.[94]

The problem is that no further information reached Nagumo. He never learned that *Yamato* intercepted on 29 May a transmission from an American submarine in the vicinity of the Japanese transport group; nor that radio traffic from Hawaii (much of it marked "urgent," and also monitored by *Yamato*) had sharply increased; nor

that "Operation K," a scheduled long-range air reconnaissance of Pearl Harbor, had been canceled. Nor did he learn that Yamamoto had begun to suspect, especially from the increased radio traffic from Hawaii, that an American naval response to his Midway operation was under way.[95]

Yamamoto had not passed any of this vital information on to Nagumo, because he had decided on a policy of strict radio silence; he assumed that *Akagi* had picked up the same transmissions he had been receiving on *Yamato*.[96]

However, *Akagi*—because of its relatively small superstructure—lacked radio antennae large enough to receive the lower-frequency signals required for long-distance transmissions. Although the two fast battleships in the Mobile Force probably could have monitored long-range radio traffic, no arrangements had been made for them to do so and relay important intelligence to Nagumo. Kusaka, Nagumo's chief of staff, had worried about this very problem; before the departure from Japan he had urged that *Yamato* relay all important radio intelligence to *Akagi*, but he had been turned down, because of radio silence.[97] Thus, Nagumo had been left to assume that as of 31 May the Midway operation was still unknown to the Americans and also that Operation K had been carried out, and he had seen nothing to alter that assumption.

By 2 June (1 June in Hawaii) even the Naval General Staff in Tokyo, in an about-face, had come to the conclusion that the Americans had discovered the Midway operation and might be sending carriers to ambush Nagumo's Mobile Force. It sent that intelligence in an urgent radio message addressed to both Yamamoto and Nagumo. Yamamoto received this warning, but Nagumo did not. Yamamoto was inclined to relay it to Nagumo but, incredibly, was talked out of it by his senior staff officer—Kameto Kuroshima—on grounds that Nagumo had probably received it and radio silence should be maintained.[98] Thus, three days before the attack on Midway it seems that almost everyone in the Japanese naval high command suspected that American carriers might be at Midway—everyone except Nagumo.

Yamamoto's failure to provide for adequate communications resulted in Nagumo's being totally deprived of the information he needed to assess properly the American carrier threat on the morning of the battle. Just hours before the launch of his Midway strike force, Nagumo informed his staff, "The enemy is not aware of our

plans. . . . It is not believed that the enemy has any powerful unit, with carriers as its nucleus, in the vicinity."[99] Had he realized that American carriers might be in the area, it is most unlikely that he would have rearmed his torpedo planes for a second strike on Midway. The communications personnel of the Mobile Force would probably have been more alert in receiving and relaying search plane reports to him, increasing the chances of a timely strike against the American carriers.

Rearming of the Torpedo Planes. Nagumo's total lack of current intelligence regarding a possible American carrier threat, however, does not excuse his foolhardy blunder in deciding to rearm his second-wave torpedo planes at 0715. This not only contravened Yamamoto's standing order but was unnecessary. A second strike on Midway was probably reasonable under the circumstances, as the first strike had failed to neutralize the air power there. However, it was not necessary to rearm the *torpedo planes;* an adequate second strike could have been made with just dive-bombers and Zeros. This is because the main purpose of the second strike was to destroy the aircraft that had escaped before the first strike, a task for which dive-bombers and Zeros were especially well suited. Even the other purpose, knocking out antiaircraft gun batteries, could have been achieved almost as well by dive-bombers as by torpedo planes. That extra margin of firepower provided by the torpedo planes was not essential, and its price was far too high: it made the Japanese carriers incapable of an effective strike against any American carrier force that might show up—however remote Nagumo judged that possibility to be.

Nagumo made, then, a "reverse lottery" gamble: instead of risking a little for the chance of gaining a lot, he risked a great deal in order to gain very little. Why did he do it? The main reason appears to be Nagumo's devotion to the doctrine of coordinated attack, using all three types of planes. This doctrine had served the Mobile Force very well, and it probably even justified his decision to postpone his attack against the American carrier force later that morning. But in this instance—the second strike on Midway—he should have deviated from it.

* * *

The "standard scenario" of the battle of Midway is not credible: most of the blunders supposedly committed by Nagumo and *Tone* 4 are dubious, if not absurd. It is understandable that the Japanese were portrayed as capable of them immediately after the war; it has been commonplace to belittle the intellectual capabilities of one's enemies, especially those of a different ethnic group. It is also understandable why this view was aided and abetted by the Japanese themselves; it is natural for a defeated people to indulge in a certain amount of introspective self-deprecation and scapegoating.

But now, over a half-century after the war, more objectivity is in order. Too little of the record survives to know for certain, but the new scenario proposed here is surely much closer to what actually happened than has heretofore been portrayed. It does not diminish the pride Americans can rightfully take in their victory to accept that Yamamoto, Nagumo, and the crew of *Tone* 4 were crafty and worthy adversaries.

American pride, however, should also be tempered by the realization that sheer luck had much to do with the outcome. Without some incredibly good fortune for the Americans, and some equally bad luck for the Japanese—most notably, the cloud cover that obscured Task Force 17 when *Chikuma* 5 flew almost right over it at 0630—Nagumo would have gotten his strike force off his carriers. The American carrier force most likely would have been destroyed. The remarkable decoding work that had uncovered the Midway operation and set the stage for an ambush would have been seen, instead, as having led the American carriers into a trap. Had that happened, the course of the war in the Pacific would have been unimaginably different. Such are the fortunes of war.

Notes

1. Nagumo's carrier force of four fleet carriers and supporting ships has been variously called the Mobile Force, Striking Force, First Air Fleet or, in Japanese, Kido Butai.

2. Ikuhiko Hata and Yasuho Izawa, *Japanese Naval Aces and Fighter Units in World War II* (Annapolis, Md.: Naval Institute Press, 1989), p. 148.

3. John B. Lundstrom, *The First Team* (Annapolis, Md.: Naval Institute Press, 1984), p. 330.

4. Commander in Chief, U.S. Pacific Fleet, "Battle Report," 28 June 1942, ser. 01849, part 1, p. 27.

5. Samuel Eliot Morison, *History of United States Naval Operations in World War II*, vol. 4, *Coral Sea, Midway and Submarine Actions, May 1942–August 1942* (Boston: Little, Brown,

1988). Morison based his work largely on Nagumo's official report, "Mobile Force's Detailed Battle Report #6," translated and published in 1947 by the Office of Naval Intelligence under the title *The Japanese Story of the Battle of Midway*, OPNAV P32-1002. There are two versions of this report, with different pagination; the first, which Morison cites, appeared in the May 1947 issue of the *ONI Review*. The version I cite (as more available in libraries) was a booklet published by the Office of Naval Intelligence in June 1947 [hereafter Official Report]. The first popular account from Japan was Mitsuo Fuchida and Masatake Okumiya, *Midway: The Battle That Doomed Japan*, ed. Clarke C. Kawakami and Roger Pineau (Annapolis, Md.: Naval Institute Press, 1955). Later American popular works were Walter Lord, *Incredible Victory* (New York: Harper & Row, 1967), and Gordon W. Prange, *Miracle at Midway*, ed. Donald M. Goldstein and Katherine V. Dillon (New York: McGraw-Hill, 1982).

6. Especially the 1976 movie *Midway* and Herman Wouk's widely read novel (later a television miniseries) *War and Remembrance* (Boston: Little, Brown, 1978), pp. 398–403, 424. The image of a "dithering" Nagumo has been durable; see John Keegan, *The Price of Admiralty* (New York: Viking Penguin, 1989), p. 199. A recent scholarly treatment is Lundstrom; another excellent recent account of the American side of the battle is Robert J. Cressman and Steve Ewing, *"A Glorious Page in Our History": The Battle of Midway, 4–6 June 1942* (Missoula, Mont.: Pictorial Histories, 1990).

7. This order was not included in the Mobile Force's Midway operation order but was given to Nagumo orally before the fleets sortied from Japan. Yamamoto's staff officers Kameto Kuroshima and Yasuji Watanabe regretted after the battle that the order had not been put in writing. Prange, p. 214.

8. Official Report, p. 15.

9. Richard W. Bates, "The Battle of Midway, including the Aleutian Phase, June 3–11, 1942: Strategical and Tactical Analysis," unpublished manuscript, Naval War College, Newport, R.I., 1948, p. 90; Morison, *Coral Sea, Midway and Submarine Actions*, p. 107; and Lord, p. 118.

10. Fuchida and Okumiya, p. 165; and Prange, p. 218.

11. Fuchida and Okumiya, p. 165; and Prange, p. 218. In accord on time of receipt is John Toland, *But Not in Shame* (New York: Random House, 1961), p. 382.

12. Fuchida and Okumiya, p. 167; Lundstrom, p. 337; and Thaddeus V. Tuleja, *Climax at Midway* (New York: W. W. Norton, 1960), p. 109.

13. Prange, pp. 214, 218. See also Fuchida and Okumiya, p. 167; Lord, p. 119; Morison, *Coral Sea, Midway and Submarine Actions*, p. 107; and Tuleja, p. 109.

14. *Senshi Sosho* [War history series], vol. 43, *Middowe Kaisen* [Midway sea battle] (Tokyo Asagumo Shimbunsha, 1971), p. 313. (Under the American Library Classification system, the Midway volume is number 34.)

15. Official Report, p. 15.

16. Lundstrom, p. 339; and Prange, p. 234. Other authorities have the launch time scheduled after the Midway strike force was landed at 0918.

17. Fuchida and Okumiya, p. 169; and Prange, p. 218.

18. Fuchida and Okumiya, p. 245; and Prange, p. 370.

19. The Mobile Force was discovered around 0530 by an American PBY search plane, which was spotted by the Japanese at 0542. Official Report, p. 13.

20. *Senshi Sosho* (p. 289) gives as one of the reasons for deciding against launching an attack that even if all the torpedo planes had been rearmed with torpedoes, it would have taken forty minutes to raise them to the flight deck for a launch. If the rearming operation was reversed at 0745, however, why were all those planes still in the hangar decks at 0830?

21. Chuichi Yoshioka, quoted in *Senshi Sosho*, p. 291.

22. The action reports of the four carriers, translations by the Washington Document Center, are contained in unpublished document WDC 160985B, U.S. Naval Historical Center, Operational Archives Branch, Washington, D.C.

23. The most valuable in English is Bates; Morison—who had an office at the Naval War College, where Bates had worked, while writing his own volume—later acknowledged his heavy reliance upon that source. A small number of copies (some of poor reproduction quality) were disseminated, however, and it is available at most military libraries and some of the larger public libraries.

24. About two dozen such men were found and agreed to be interviewed. These interviews were made possible by Minehiro Miwa, a history professor specializing in the events leading to World War II in the Pacific and who had connections with Japanese navy veterans' organizations. He located veterans of the Midway operation, arranged for the interviews, and handled the translation and interpretation duties. Especially valuable were the interviews he arranged with Chuichi Yoshioka, who compiled Nagumo's official report, and with Hitoshi Tsunoda, who wrote the *Senshi Sosho* volume on Midway. He also introduced me to the Japanese literature on the subject and, finally, served as a sounding board. He was indispensable to this project.

25. Official Report, p. 42.

26. The "composite log," a section of the official report, is entitled "Outline of Events" but is actually a compilation of entries from the radio and other message logs of several ships in the Mobile Force.

27. Official Report. Both orders are at p. 15.

28. Morison, *Coral Sea, Midway and Submarine Actions*, p. 107.

29. Fuchida and Okumiya, p. 168; Lord, p. 124; and Prange, p. 223.

30. Official Report, p. 7.

31. Ibid., p. 13. The message is reported in the log as having come from *Tone* 4 (which flew nowhere near Midway.) However, *Senshi Sosho* points out that it was actually the *Tone* plane on the #3 search path (also designated *Tone* 1)—that did fly near Midway. *Senshi Sosho*, p. 307.

32. Lord, p. 98; Prange, p. 219; and Robert D. Heinl, Jr., "Marines at Midway," Marine Corps Monographs, 1948, p. 27.

33. The compiler was Chuichi Yoshioka, a staff officer on *Akagi;* his caveats appear in *Senshi Sosho*, p. 284.

34. Prange, p. 217. Prange cites Ryunosuke Kusaka, *Rengo Kantai* [Combined fleet] (Tokyo: Mainichi, 1952), p. 84, and an undated questionnaire completed by Minoru Genda, by then a lieutenant general.

35. Hitoshi Tsunoda interviewed Kusaka and Genda around 1969 while preparing the *Senshi Sosho* volume on Midway. They both maintained that the sighting report was not received in Nagumo's command center until about 0800. Interview with Tsunoda at Chiba Prefecture, Japan, 25 July 1993.

36. There is another report of the battle, written by some of Nagumo's staff officers in 1947. It is entitled *Japanese Monograph No. 93: Midway Operation*. It was produced in Japan by General MacArthur's Allied Translator and Interpreter Section (ATIS) but never published. It is very detailed and appears to incorporate much of Nagumo's official report. It also states that the *Tone* 4 sighting report was received in *Akagi's* flag bridge at "about 0800" and contains no data inconsistent with that time. (It has the countermand order being issued after 0800.)

37. *Senshi Sosho*, pp. 313–4.

38. Bates, p. 89; and Official Report, p. 14.

39. The various procedures involved in the rearming operation and the approximate times they took were obtained from the following Mobile Force air group veterans during interviews conducted in Japan in October 1992 and July 1993: Katutaro Akimoto, torpedo mechanic, *Akagi;* Takeshi Arakawa, dive-bomber mechanic, *Hiryu;* Fukuji Inoue, torpedo plane pilot, *Akagi;* Mr. Itazu, dive-bomber gunner, *Hiryu;* Yaroku Jinnouchi, Zero mechanic, *Hiryu;* Yuichi Kobayashi, chief of Zero squadron maintenance, *Hiryu;* Takeshi Maeda, torpedo plane pilot, *Kaga;* Tokayoshi Morinaga, torpedo plane pilot, *Kaga;* Mr. Motake, torpedo mechanic, *Soryu;* Yasaharu Mouri, dive-bomber mechanic, *Hiryu;* Tatsuya Ohtawa, torpedo plane pilot, *Soryu;* Moushichi Santou, dive-bomber mechanic, *Akagi;* Kanzo Sawada, dive-bomber mechanic, *Akagi;* Makato Tutumi, torpedo plane mechanic, *Hiryu.* Other Midway veterans with helpful information on events during the rearming operation were Hiseo Mandai, engineer, *Hiryu;* and Chuichi Yoshioka, staff officer, *Akagi.*

40. Interviews with Akimoto, Inoue, Kobayashi, Morinaga, and Motake.

41. Official Report, p. 7.

42. Fuchida and Okumiya, p. 168; and Prange, p. 218.

43. Fuchida and Okumiya, p. 167.

44. Prange, pp. 217, 224–5; and *Senshi Sosho,* p. 288.

45. *Senshi Sosho,* p. 313.

46. Tsunoda interview.

47. Official Report, p. 16. This indicates that few if any torpedo planes were on the flight deck of *Akagi,* contrary to the assumption of the standard scenario that at least half the squadron was on the flight deck, rearmed with land bombs.

48. The landing schedule on *Kaga* was probably similar. However, on *Hiryu* and *Soryu* it had been delayed, because at least half of their dive-bombers were on the flight decks and had to be stricken below first. (Genda states that all were on the flight decks [Prange, p. 232], but Jinnouchi, who helped rearm the *Hiryu* dive-bombers, recalls that only half were on that ship's flight deck.) Consequently, only about half of the Midway strike-force torpedo planes had been landed by 0918. *Senshi Sosho,* pp. 326–7. See also Action Report of *Soryu,* WDC 160985B, p. 18.

49. They were not all spotted on *Akagi*'s flight deck when the bombs hit at 1025; *Kaga*'s torpedo planes were even more behind schedule. The attacks by American torpedo bombers after the 1030 launch had been scheduled had delayed matters. The Zero seen taking off from *Akagi* by American pilots at 1025—widely assumed to have been the first of the attack group—was actually being launched for combat air patrol. *Senshi Sosho,* pp. 329-30.

50. Fuchida and Okumiya, p. 161; Prange, p. 214; and Toland, p. 381.

51. Lord, p. 118; Lundstrom, p. 337; and *Senshi Sosho,* p. 289.

52. While there is some evidence that all the dive-bombers were rearmed on the flight decks, it is more likely that half were rearmed in the hangar decks. Interviews with Jinnouchi, Kobayashi, and Mouri. However, this would not preclude their having been raised back to the flight decks before 0830.

53. Statement of Itazu (dive-bomber gunner, *Hiryu.*) See also Lundstrom, p. 384.

54. There is evidence that the radio room on *Hiryu* picked up the *Tone* 4's sighting report and gave it to Yamaguchi before 0800. William Ward Smith, *Midway, Turning Point of the Pacific* (New York: Thomas Y. Crowell, 1966), p. 90; also Tsunoda statement. It appears that Yamaguchi then on his own initiative ordered the rearming of the dive-bombers reversed. This would explain how the dive-bombers got switched back to antiship bombs by 0830.

55. *Senshi Sosho,* p. 308.

56. Yamamoto's flagship, *Yamato,* had received the *Tone* 4 sighting report and forwarded it to the flag bridge at 0740. Matome Ugaki, *Fading Victory: The Diary of Admiral Matome Ugaki, 1941–1945* [hereafter Ugaki Diary], trans. Masataka Chihaya, ed. Donald M. Goldstein

and Katherine V. Dillon (Pittsburgh: Univ. of Pittsburgh Press, 1991), p. 149. This may be one of the reasons (apart from the message entries in the "composite log" of Nagumo's official report) why it is generally assumed that Nagumo received the sighting report before 0745. However, Yamamoto—unlike Nagumo—suspected that American carriers might be in the Midway area and apparently had put his communications staff on alert for such reports. (As mentioned in note 54, Yamaguchi may also have independently received the sighting report from *Tone* 4 before 0800.)

57. A naval analyst critical of the time it took has commented, "Delays of this nature in the decoding and delivery of important messages are serious at any time, but in air warfare where minutes and seconds have such a vital effect on relative position, they can be an important contributing factor to the victory or defeat of any force. Plain English, authenticated, would have saved vital minutes in this case." Bates, p. 122.

58. Fuchida and Okumiya, p. 170; Lord, p. 131; and Prange, p. 232.

59. Although Japan had a total of about 3,500 naval pilots, the vast majority were land-based-aircraft and seaplane pilots. Masatake Okumiya and Jiro Horikoshi, *Zero!* (New York: Ballantine Books, 1957), pp. 34–6. The number who were carrier pilots appears to have been less than five hundred. The figure of four hundred I use for "first-line" experienced pilots is derived from the number used in the attack on Pearl Harbor; see Gordon W. Prange, *At Dawn We Slept* (New York: Penguin Books, 1982), p. 375, and n. 13 for chap. 46, p. 768. The Mobile Force's normal complement of around 380 pilots had been specially reinforced with about twenty of the most experienced pilots from the light carriers. Samuel Eliot Morison, *History of United States Naval Operations in World War II*, vol. 3, *The Rising Sun in the Pacific, 1931–April 1942* (Boston: Little, Brown, 1988), p. 85. The remaining carrier pilots on the light carriers, numbering only about seventy, were considered "second-line," and few of them developed into first-line fleet carrier pilots.

60. Official Report (in narrative, not message log), p. 7.

61. *Senshi Sosho*, p. 290.

62. One hundred seventy-five miles was, in fact, the combat radius for the newly embarked F4F-4 model. Lundstrom, p. 140.

63. Bates, p. 92; and *Senshi Sosho*, pp. 308–9. See chart.

64. *Senshi Sosho*, pp. 310–1.

65. The pilot had just been transferred in from a seaplane carrier less than a month before, and there had not been time "properly [to] train him for his new reconnaissance duties." Ibid., p. 308.

66. Official Report, p. 16.

67. Bates, p. 123.

68. Ibid.

69. Ibid.

70. Fuchida and Okumiya, p. 236; and Prange, p. 372.

71. Lord, p. 119; Morison, vol. 4, p. 106; and Prange, p. 186.

72. Fuchida and Okumiya, p. 168; Lord, p. 128; Morison, vol. 4, p. 107; and Prange, p. 217.

73. *Senshi Sosho*, p. 305. See also Bates, p. 126.

74. Official Report, p. 14.

75. Ibid., p. 42.

76. *Senshi Sosho*, pp. 309, 311. Bates also inferred this (see his diagram D-2).

77. But as the *Tone* plane left a half-hour late, it arrived at the same point only a little over a half-hour earlier than it otherwise would have.

78. A typical comment on the failure of the *Tone* 4 pilot to identify a carrier for fifty-two minutes is, "Nobody could miss anything that big for long"; Lord, p. 128. More scathing is Wouk's

portrayal in *War and Remembrance* (p. 406): "Having turned in this sorry performance, he vanished from history; like the asp that bit Cleopatra, a small creature on whom the fortunes of an empire had briefly and sadly turned."

79. James H. Belote and William M. Belote, *Titans of the Seas* (New York: Harper and Row, 1975), p. 95; Fuchida and Okumiya, pp. 165–6; and Tuleja, p. 107.

80. *Senshi Sosho*, pp. 308, 312.

81. Bates, p. 126.

82. *Senshi Sosho*, p. 312.

83. The reported course of the "ten ships" seen by *Tone* 4 at 0728 was 150. However, carriers turned into the wind during launching operations; at 0730 the wind was from 135; Bates, p. 126. The track chart (reproduced in Prange, p. 369) for the *Enterprise* air group shows the carrier on a course of between 135 and 140 at 0730.

84. Bates, p. 126.

85. The five heavy cruisers in Task Force 16 were the *Minneapolis* (CA 36), *New Orleans* (CA 32), *Northampton* (CA 26), *Pensacola* (CA 24), and *Vincennes* (CA 44). There were a total of nine destroyers in that task force. Morison, vol. 4, p. 91.

86. Official Report, p. 7. The message log entry, on p. 16, merely says, "The enemy is accompanied by what appears to be a carrier," omitting the last phrase, "in a position to the rear of rhe others." This is the version of the sighting report to which most commentators refer, and of course it conveys the idea that the carrier had been with the other ships all along.

87. *Enterprise* track chart, in Prange, p. 369.

88. Lundstrom, p. 338. This appears to be the basis for the assumption that *Tone* 4 was this far away at 0728.

89. Edwin T. Layton, *And I Was There* (New York: William Morrow, Quill, 1985), p. 415.

90. Ibid., p. 433.

91. Fuchida and Okumiya, p. 123.

92. Ibid., p. 108.

93. Ugaki Diary, p. 140. Ugaki was Yamamoto's chief of staff.

94. Although it is possible that Nagumo believed that the American carriers were still in the South Pacific, his official report states that he estimated that there were two or three carriers in the Hawaii area, which "would sortie in the event of an attack on Midway" (p. 3).

95. Fuchida and Okumiya, pp. 119–20, 129; and Ugaki Diary, p. 135.

96. Fuchida and Okumiya, p. 129.

97. Ibid., p. 124.

98. Prange, p. 146 (citing interview with Kuroshima). See also Lord, p. 44.

99. Official Report, p. 3.

Ψ

America's First Limited War

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CONTROVERSY OVER THE U.S. MILITARY'S constitutional authority to wage undeclared, limited war predates the police actions, regional wars, and low-intensity conflicts of the twentieth century. America's first limited war was a controversial undeclared war with France only fifteen years after the end of the Revolutionary War. This eighteenth-century conflict was fought as a defensive war by America but as a punitive one by France—in bitterness over U.S. reconciliation and commerce with Great Britain.

America's first limited war was also its first war fought entirely at sea. The United States was so unprepared for war that it had to create a new navy to fight it, resulting in the establishment of a permanent U.S. Navy. Characteristically of a limited war, the U.S. Navy operated under stringent rules of engagement to prevent escalation of the conflict.

Because from the American viewpoint it was a solely defensive war of strictly limited objectives, scale, forces, and targets, the conflict has been known as the "Quasi-War." It engendered political and legal controversy over whether such a limited war was really a war at all, and whether such an undeclared conflict was constitutional. Confronting these controversies, the U.S. Supreme Court decided several cases of landmark significance to the law of war. The Quasi-War, through its historical and legal precedent, confirmed and defined the constitutional authority of the United States to wage undeclared, limited war.

Limited War

War is a hostile contention carried on by armed forces between nations, states, or rulers, or between political entities holding territory

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in the same nation or state.[1] In modern terminology, wars are either "general" or "limited." The nineteenth-century Prussian military theorist Carl von Clausewitz wrote, "War can be of two kinds, in the sense that either the objective is (1) to overthrow the enemy—to render him politically helpless or militarily impotent, thus forcing him to sign whatever peace we please; or (2) merely to occupy some of his frontier-districts so that we can annex them or use them for bargaining at the peace negotiations."[2] In a limited naval war, the belligerents may try to capture each other's vessels as prizes or for bargaining, as a nation's vessels are equivalent to sovereign territory.[3]

Limited war is distinguished from general war by the limited nature of its political objectives. Clausewitz's famous maxim—"War is merely the continuation of policy by other means"—emphasizes that war is characterized by its political objectives.[4] In a limited war, the belligerents do not seek to conquer each other; such a war is a form of bargaining through graduated military response so as to achieve a negotiated settlement short of either side's destruction.[5] One federal court has described a limited war as "in its nature similar to a prolonged series of reprisals."[6] In contrast, a belligerent who seeks to vanquish his foe fights a general war.[7]

These definitions of general and limited war raise complications. Some wars begin as limited wars and become general wars; other wars begin as general wars and become limited—such as the Korean War, in which the United States abandoned its objective of subduing North Korea when China intervened.[8] Still other conflicts, such as the Vietnam War, are limited on one side and general war on the other.[9] (A civil war is likely to be such a conflict—if the preexisting government tries to crush the rebellion, while the rebels seek only to dispossess the government of a portion of its territory.) These

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complications and the endless varieties and circumstances of warfare make a precise characterization problematic; the late Robert McClintock, a former U.S. ambassador and State Department advisor to the Naval War College from 1964 to 1966, describes seven categories of limited war.[10] It is perhaps for this reason that "limited war" lacks an internationally accepted definition.[11]

Some definitions of limited war are based on the degree of limitation on military effort; restrictions on targets, geographical bounds, or quantities and destructiveness of weaponry may define limited war.[12] But these limitations are generally induced by the war's political objectives. Clausewitz noted, "The political object—the original motive for the war—will determine both the military objective to be reached and the amount of effort it requires."[13] Limited wars, consequently, are likely to be more geographically confined, use less weaponry, and be less destructive than a general war, because their political objectives are more modest.[14]

However, definitions of limited war based on the intensity of military effort are inadequate. Wars that are limited geographically may nevertheless be extremely destructive. For example, France devoted a total military effort to World War I, suffering 5.6 million casualties out of 8.5 million men in uniform even though it limited its hostilities to its own borders. Wars may be geographically restricted simply because the belligerents happen neither to control nor contest a great deal of territory.[15]

Second, to define limited wars as those fought with less than all available weaponry encompasses certain conflicts commonly considered general. Even World War II might be regarded as a limited war under this definition, simply because Nazi Germany and the Allies refrained from using chemical and biological weaponry.[16] As nuclear, chemical, and biological weapons become more widely available, any war—no matter how intense, prolonged, or destructive—in which such means are not used might be regarded as limited. The Thirty Years' War, fought by small armies using now-antiquated weaponry, nevertheless reduced the population of Germany by 30 percent.[17] Limited war, therefore, cannot be distinguished from general war solely by the weaponry used.

Third, a limited war cannot be distinguished from general war solely by limitations on targets attacked, because international law limits permissible targets for both general and limited warfare.

Characterizing limited war by limitations on targets necessarily implies that in general warfare, targets must be *un*limited and that a general war therefore must violate international law. This would mean, curiously, that general war must be banned by the same international law that purports simply to mitigate the excesses of war.[18] Thus, a definition of limited war as that which limits targets of attack is too broad.

Not every potential target has strategic value; some are ignored even in general wars, simply because attacking them would be wasteful or pointless, or both. Therefore, defining limited wars by the belligerents' intensity of military effort alone is inadequate.[19] Former secretary of state Henry Kissinger has concluded, "In short, there exists no way to define a limited war in purely military terms."[20]

Some constitutional scholars have distinguished general war from limited war by the existence, or not, of a declaration of war. Eugene V. Rostow, professor emeritus of law and public affairs at Yale University and former undersecretary of state for foreign affairs, has explained, "Under international law, to which the relevant paragraphs of Article I [of the U.S. Constitution] refer, declarations of war are required only for the rare occasions when states engage in unlimited general war. As the Founding Fathers knew from intimate experience, such declarations are not required when states feel compelled to use limited force in defending themselves."[21] John C. Yoo, professor of law at Boalt Hall and former Senate Judiciary Committee general counsel, has agreed: "From a legal perspective, the declaration performed an important function in distinguishing between limited hostilities and an all-out conflict. It was clearly understood in the eighteenth century that a 'declared' war was only the ultimate state in a gradually ascending scale of hostilities between nations."[22] Congress signifies its intent to carry on a general war by declaring war—although the Civil War and the Indian wars were waged without such declarations, because these wars were domestic conflicts, not between independent nations.[23]

A civil war is by its nature undeclared.[24] William Winthrop—an authority who has been called "the Blackstone of Military Law"—stated, "A civil war . . . exists of its own force and independently of any authentication of Congress; the Constitution making no provision for the declaration either of the beginning or end of such a status."[25] A civil war is a domestic insurrection for which a

declaration of war from the preexisting government would be inappropriate; it would recognize the sovereignty, and therefore legitimacy, of the rebel government. The rebels also rarely declare war, because, seeking as they do either to take over the country or win

Congress did not need to declare war in response, because as Federalist congressman Robert Goodloe Harper of South Carolina exclaimed: "War is made upon us!"

their independence, they deny the legitimacy of the existing government. The Revolutionary War was a civil war in which the American colonies fought for their independence from Great Britain. Characteristically, neither Britain nor the Continental Congress declared war.[26]

Similarly, the American Indian wars were undeclared, even though the United States often fought them as general wars, without restriction.[27] From 1789 to 1794—before the undeclared, limited war with France that is the subject of this article—the United States fought an undeclared *general* war against the Shawnee tribe. General Anthony Wayne's decisive victory in August 1794 at the battle of Fallen Timbers all but expelled the Shawnee from the Northwest Territory.[28] Such wars have never been declared, because Indian tribes have never been regarded as foreign states. The federal courts and foreign governments viewed each Indian uprising as a rebellion of a dependent nation within the territory of the United States.[29] As described by Chief Justice John Marshall, these tribes "reside within the acknowledged boundaries of the United States" as "domestic dependent nations" in a "state of pupilage." "They acknowledge themselves in their treaties to be under the protection of the United States; they admit that the United States shall have the sole and exclusive right of regulating trade with them, and managing all their affairs as [it thinks] proper." Marshall concluded, "We perceive plainly that the constitution . . . does not comprehend Indian tribes in the general term 'foreign nations'; not we presume because a tribe may not be a nation, but because it is not foreign to the United States."[30]

Civil wars and Indian wars are obviously different from wars against foreign nations. The framers had foreign wars in mind when they gave Congress the power formally to declare war.[31] A foreign war waged without a formal declaration from Congress, therefore,

may be viewed as limited, at least in the sense that Congress has declined to invoke its highest war power—that of declaring war.[32]

Limited wars, then, are typically undeclared—but the constitutionality of undeclared war as such is in dispute. Some academics argue that undeclared war is unconstitutional, and some courts have refused to recognize that the United States can lawfully wage an undeclared war.[33] For example, in determining liability for the 3 July 1988 downing by the USS *Vincennes* (CG 49) of an Iranian airliner during the Iran-Iraq War, the U.S. Court of Appeals for the Ninth Circuit cited a law review article asserting that undeclared war is unconstitutional. Because, however, the constitutionality of the naval conflict was irrelevant to the case, the court announced, "We do not express any view concerning the constitutionality of acts of war by American armed forces in the absence of a formal declaration of war."[34] Nevertheless, the very presence of the disclaimer implied that the court might otherwise have found the absence of a formal declaration to render a war unconstitutional.

One constitutional scholar has noted that "since World War II, declarations of war have essentially vanished, world-wide."[35] Every post–World War II conflict fought by the United States has been undeclared.

Some modern scholars have assumed that the first limited war fought by the United States was the Korean War, its first post–World War II conflict.[36] In fact, however—and whether one defines limited war by the belligerents' level of effort, by the scope of their military objectives, or by the absence of a formal declaration of war—America's first limited war took place in the nation's early days as a constitutional republic.[37]

The Quasi-War

The Quasi-War was the first war the United States fought with a foreign power after achieving independence.[38] The enemy, ironically, was France—without whose aid American independence in 1783 might have been unattainable.[39] But by the late 1790s much had changed. France was no longer a monarchy; it had beheaded its king in 1793 during its bloody revolution. Maximilien Robespierre and the Committee of Public Safety had come to power and executed thousands of political opponents, in a period known as "the Terror."

A year later, Robespierre himself had been executed, and in 1795 the Directory—a ruling council of five directors—had assumed power.[40]

Emboldened by revolutionary spirit, France brashly declared war against several major European powers: Great Britain, Austria, Prussia, and the Netherlands. President George Washington resisted French efforts to draw America into the conflict. His proclamation of neutrality infuriated France, which expected America to align with it. In its Revolutionary War alliance with France, the United States had agreed to defend French possessions in the Caribbean against foreign attack. In 1793, however, Britain began to invade and capture these possessions, without American opposition;[41] the U.S. government refused to defend them, because France had begun the war. A contemporary legal authority, the acclaimed jurist James Kent, reasoned as follows:

> The treaty of alliance between France and the United States, in 1778, was declared, by the second article, to be a defensive alliance, and that declaration gave a character to the whole instrument; and, consequently, the guaranty, on the part of the United States, of the French possession in America, could only apply to future defensive wars on the part of France. Upon that ground, the government of this country, in 1793, did not consider themselves bound to depart from their neutrality, and to take part with France in the war in which she was then engaged. The war of 1793 was first actually declared and commenced by France, against all the allied powers of Europe, and the nature of the guaranty required us to look only to that fact.[42]

The French chargé d'affaires in America conceded that the 1778 alliance had been defensive but argued that France had now resorted to war only after exhausting all means of conciliation. He wanted the U.S. government to acknowledge that war had been inevitable; France did not want Washington to attempt conciliation on his own.[43]

When the United States and Britain concluded Jay's Treaty, which averted war, reconciled old grievances, and improved trade, France took offense. The Directory interpreted the treaty as a commercial alliance between America and Britain, with which France was at war.[44] Two provisions of Jay's Treaty particularly incensed the French: first, the United States agreed to refrain from shipping the property of

Britain's enemies, or war contraband, such as armaments and naval supplies; and second, the United States gave British privateers the exclusive use of U.S. ports, contravening the exclusivity previously granted French privateers.[45] The Directory angrily expelled the U.S. minister to France, Charles Cotesworth Pinckney, breaking diplomatic relations with the announcement "that it will not acknowledge nor receive another minister plenipotentiary from the United States" until the United States renounced Jay's Treaty.[46] The French navy and French-licensed privateers began attacking American merchant ships, in a campaign of commercial plunder—*guerre de course*.[47]

The French inflicted terrific losses on American shipping. Secretary of State Timothy Pickering somberly reported to Congress on 21 June 1797 that the French had captured 316 American merchant ships in the previous eleven months.[48] The hostilities caused insurance rates on American shipping to skyrocket at least 500 percent, as French marauders cruised the length of the U.S. Atlantic seaboard virtually unopposed. The administration had no warships to combat them; the last had been sold off in 1785. The United States possessed only a flotilla of revenue cutters and some neglected coastal forts.[49] By war's end in 1800, the French were to seize over two thousand American merchant vessels.[50]

Meanwhile, French armies had swept to victory against a coalition of most Western European nations, leaving only Great Britain still defiant. Flush with triumph, the Directory made plans to forge a new French colony in North America, abandoning France's Revolutionary War pledge never to do so. France sent spies into Spain's Louisiana territory to prepare for a takeover. U.S. officials feared that France intended to reverse the 1763 settlement of the French and Indian War, in which France had lost North America to Britain and Spain. French ministers now talked openly about ending America's westward expansion by seizing control of the Mississippi River.[51] The French army, which had proven so unstoppable in Europe and at eight hundred thousand men was the largest in the world, might easily overpower America's small and inferior army of three thousand, strung along the frontier. A general war with France could be catastrophic for the nascent American republic.[52]

Congress therefore reacted mildly to the French maritime depredations. In July 1797 it authorized the president to use revenue cutters "to defend the sea coast, and to repel any hostility to their

vessels and commerce, within their jurisdiction."[53] Congress resumed construction of frigates begun in 1794 but suspended in 1796;[54] it also funded improved harbor and port fortifications, authorized an enlarged militia, barred the export of munitions, and eliminated duties on their importation.[55] But Congress refused to enact any other defensive measures, even to authorize merchant vessels to arm themselves for self-defense, despite the appeals of newly elected president John Adams that it do so.[56]

In an earnest effort to bring peace with France, Adams sent an official delegation to Paris in the summer of 1797 in hopes of negotiating a French equivalent of Jay's Treaty. The delegation, which arrived at Paris in October 1797, included a future Supreme Court chief justice (John Marshall), a Founding Father (Charles Cotesworth Pinckney), and a signer of the Declaration of Independence (Elbridge Gerry). The French foreign minister—Charles Maurice de Talleyrand-Périgord, an unscrupulous diplomat and a onetime bishop who had been excommunicated by the pope—refused to deal with the delegation. Through three agents (later code named X, Y, and Z), Talleyrand arrogantly informed the three Americans that the Directory would not negotiate until the U.S. government assumed French debts to American suppliers, indemnified France against claims of American ship owners victimized by French spoliations, extended a $12.8 million unsecured loan to France, paid him personally a $250,000 bribe, and formally apologized for President Adams's complaints against France's depredations and meddling in American politics. America must aid France, or France would treat America as an enemy.[57] The American delegation could not accept these terms. Not only were they humiliating, but a loan would compromise U.S. neutrality and symbolize a political alignment with France against Great Britain.[58] Pinckney, speaking for the delegation, replied brusquely to Talleyrand's demands: "No, no; not a sixpence!" The delegation then departed Paris, except for Gerry, who remained at the insistence of Talleyrand.

Talleyrand had intimated that if the entire delegation left, France would formally declare war upon America and commence unrestricted hostilities—*guerre à outrance*. This may have been a bluff. Some historians believe that Talleyrand did not wish a wider, general war with the United States, a conflict that might force America to cement closer ties with Great Britain. Instead, he may have sought to control American foreign affairs, and enrich himself, through

diplomacy and the threat of a French invasion.[59] In 1814, breaking with Talleyrand, Napoleon was to deliver a thorough, and apparently accurate, reproach: "You are a coward, a traitor, a thief. You do not even believe in God. You have betrayed and deceived everybody. You would even sell your own father."[60]

President Adams announced on 19 March 1798 that negotiations with France had failed; he alluded to, but did not disclose, confidential diplomatic dispatches about what was to become known as the "XYZ Affair."[61] Adams again requested Congress to enact the naval defense measures he had long proposed. In a speech to Congress a year earlier he had implored, "It remains for Congress to prescribe such regulations as will enable our seafaring citizens to defend themselves against violations of the law of nations; and at the same time restrain them from committing acts of hostility against the [European] powers at war."[62] Months later, when Congress failed to act, Adams had resolved to let merchant ships arm themselves if congressional inactivity continued: "We must unshackle our merchant ships. If Congress will not do it, I shall have scruples about continuing the restriction" against arming merchant vessels for self-defense.[63] President Washington had originally imposed the restriction by executive order; in March 1798, upon the failure of peace negotiations with France, President Adams used his own executive authority to lift it.[64] He could do little else on his own. The inadequacy of his navy left the task of defending American seaborne trade to the merchantmen themselves.[65]

Adams's announcement brought a furious reaction from the opposition Democratic-Republican Party, which Adams mockingly called the "French Party."[66] Led by Adams's own adversarial vice president, Thomas Jefferson, the Democratic-Republicans excoriated the Federalist president, alleging that he had contrived the international crisis. They asserted that Adams had acted unconstitutionally in permitting the arming of merchant ships; Congressman James Madison called it "a usurpation by the Executive of a legislative power." They tried to block Adams's order, pass a resolution opposing war, and force the president to disclose the confidential "XYZ" dispatches. Adams did reluctantly divulge the dispatches, and the revelation of Talleyrand's insulting demands created an uproar. The antiwar agenda in Congress vanished, and the American public clamored for war against France.[67]

President Adams had initially favored a congressional declaration of war, but he soon decided against it.[68] He now thought a declaration of war unnecessary, and also imprudent, since it would signify a general war against France.[69] Congress accordingly abstained from issuing one.[70] In fact, Congress has never declared war except at the president's request; the Quasi-War set the pattern.[71]

Adams chose to wage a defensive, undeclared, and limited naval war, an approach resembling "armed neutrality." His objectives were to protect U.S. ships and soil, and to force France to respect American autonomy. He had no territorial ambitions.[72] "The minimum object [of war] is pure self-defense," wrote Clausewitz; "in other words, fighting without a positive purpose. With such a policy our relative strength will be at its height, and thus the prospects for a favorable outcome will be greatest."[73]

To ensure a favorable outcome, Adams sought to strengthen the nation's ability to resist French depredations and incursions. "Millions for defense but not one cent for tribute!" became a national slogan, and the groundswell it symbolized overcame congressional resistance to the defense measures Adams had proposed the year before.[74] With the slogan ringing in their ears, Congress acted swiftly to oppose French aggression. It annulled America's Revolutionary War alliance with France, cut off trade, armed merchant vessels, authorized the capture of hostile French ships, authorized the deportation of subversive aliens, penalized sedition, raised taxes, and appropriated money to build a navy and enlarge America's small standing army.[75] Congress also heeded Adams's call to raise "floating batteries and wooden walls" to protect America;[76] it created the Department of the Navy on 30 April 1798 and the Marine Corps on 11 July 1798.[77] Three powerful frigates that Congress had allowed to be completed now went to sea—*Constitution* (later famous as "Old Ironsides"), *Constellation*, and *United States*.[78] Yet Congress stopped short of authorizing offensive warfare.

Congress provided for the national defense; it resolved to resist and prevent the capture of American vessels and the invasion of American soil. But, intent on avoiding a general war with France, Congress withheld authority to prey upon unarmed French commerce or to attack French territory.[79] ("The key to a successful policy of limited war," Henry Kissinger has written, "is to keep the challenge to the opponent, whether diplomatic or military, below the

threshold which would unleash an all-out war.")[80] Congress even refrained from officially using the word "war," so as to avoid inciting France and its allies, Spain and Holland. Congress contented itself with expressing outrage at French "aggressions, depredations and hostilities" and "a system of predatory violence" as its justification for the defensive measures it had taken.[81] America was now in a state of war—but strictly limited war.

The prospect of a French invasion posed the greatest threat to America, and Congress was mindful not to provoke it. The French army had unsuccessfully invaded the British Isles (at Fishguard, in Wales) in February 1797, and in early 1798 Napoleon was assembling yet another invasion force.[82] President Adams's son and U.S. ambassador to Prussia, John Quincy Adams, surmised that France intended to invade America's western frontier; the Speaker of the House speculated publicly that troops massed in French ports were destined for America. President Adams, wary of the threat, implored General George Washington to come out of retirement to assume command of the U.S. Army.[83] Only a year after quitting the presidency, George Washington reluctantly took command of an army that was, he complained, filled with "the rif-raf of the cities, convicts, and foreigners."[84] If a French army invaded the United States, Washington anticipated, it would invade the southern states, "because they will expect from the tenor of the debates in Congress, to find more friends there."[85] He knew America was both politically and militarily ill prepared for war, let alone against the world's most formidable military power.

The undeclared war with France divided Americans. The war sharpened the divisions between the loosely defined Federalist and Democratic-Republican Parties. The Democratic-Republicans, sometimes called Jeffersonians, remained loyal to France—America's first ally. The Federalists, on the other hand, distrusted the French Directory and warmed to Great Britain, which they viewed as a bulwark against French militancy. The Federalists favored war against France; the Jeffersonians, whose strength was in the South, generally opposed the war and even asserted that the Federalist administration lacked constitutional authority to wage it.[86]

Constitutional War Power

At the Constitutional Convention of 1787, the framers had considered giving Congress the power to "make war." Upon reconsideration, they changed "make war" to "declare war," ostensibly to allow the president latitude to defend the nation from "sudden attack" and to "conduct" wartime operations.[87] Which branch of government has the power to make war, therefore, is not specified; that power must be inferred from, and implemented through, the powers that *are* specified.[88]

In his *Federalist* papers Alexander Hamilton maintained that the Constitution specifies the "authorities essential to the common defence."[89] The Constitution enumerates several war powers: it authorizes Congress to "declare War, grant letters of marque and reprisal, and make rules concerning captures on land and water";[90] it empowers Congress to "provide for the common defence," to "raise and support armies," to "provide and maintain a navy," to "provide for calling forth the militia to execute the laws of the Union, suppress insurrections and repel invasions," to suspend the writ of habeas corpus "when in cases of rebellion or invasion the public safety may require it," to decide whether a state may "engage in war," and to "make rules for the government and regulation of the land and naval forces."[91] The Constitution requires the federal government to protect each state "against invasion" and "against domestic violence."[92] Finally, it permits Congress to "make all laws which shall be necessary and proper for carrying into execution the foregoing powers vested by this Constitution in the Government of the United States, or in any department or officer thereof."[93]

The president possesses power to conduct war and defend the country. The Constitution confers on the president the "executive power," designates him the "Commander in Chief" of the armed forces, requires that he be sworn to "preserve, protect and defend the Constitution," and imposes upon him the duty to "take care that the laws be faithfully executed."[94] Through these powers, the framers intended to give the president the authority and responsibility to repel attacks on the nation's territory, possessions, citizens, and armed forces, and on vessels flying its flag, whether or not Congress had authorized, commenced, or declared war.[95]

The Constitution implicitly allows Congress to authorize war without necessarily declaring it, because the absolute power of formally declaring a general war implies lesser war powers as well.[96] Hamilton had argued, "The circumstances that endanger the safety

> *These complications and the endless varieties and circumstances of warfare make a precise characterization problematic. . . . It is perhaps for this reason that "limited war" lacks an internationally accepted definition.*

of nations are infinite, and for this reason no constitutional shackles can wisely be imposed on the power to which the care of it is committed. This power ought to be coextensive with all the possible combinations of such circumstances."[97] Specifically, the congressional power to declare war encompasses power to authorize limited hostilities without a declaration.[98] Congress may declare war or simply authorize it through legislation. In this way Congress has discretion as to whether to wage a general or limited war.[99]

Whether or not Congress declares war, it has a constitutional duty to defend the United States: the federal government "shall guarantee to every state in this Union a republican form of government and shall protect each of them against invasion."[100] The Constitution further specifies that "Congress shall have power to . . . provide for the common defence and general welfare of the United States."[101] The Preamble, although precatory, declares that the federal government has been created to "insure domestic tranquility, provide for the common defence, [and] promote the general welfare."[102]

The Constitution provides yet other war powers that Congress may exercise without first declaring war. One is the power to "grant letters of marque and reprisal, and make rules concerning captures on land and water."[103] Letters of marque and reprisal granted by Congress authorize privateers and merchant ships to capture enemy vessels.[104] Vessels granted such letters become part of the nation's armed forces.[105] To grant letters of marque and reprisal creates, according to the famed legal scholar William Blackstone, "an incomplete state of hostilities," one that lacks only a declaration of war.[106] But the authority to grant letters of marque and reprisal is distinguished from the power to declare war by the fact that the two powers are laid down separately—if in the same clause. Article 1, section

8, clause 11 states, "Congress shall have power . . . to declare War, grant letters of marque and reprisal, *and* make rules concerning captures on land and water" (emphasis added).

Congress, therefore, is empowered to authorize hostilities without declaring war by "grant[ing] letters of marque and reprisal, and mak[ing] rules concerning captures on land and water." This constitutional power applied especially to the Quasi-War, because that conflict was a war of maritime capture. During this undeclared war Congress freely authorized the capture of armed French vessels that threatened American shipping.[107] Today, although letters of marque and reprisal have fallen into disuse, this constitutional power still has applicability. For example, Congress has passed legislation authorizing the president to arm private vessels either in "time of war" or when hostilities are "threatened" or "imminent"; the president may exercise this authority without a declaration of war.[108]

Its power to "make rules for the government and regulation of the land and naval forces" and to "make rules concerning captures" allows Congress to direct how an undeclared war shall be waged.[109] The latter authority governs both military and private ships.[110] Congress used this authority to delineate "rules of engagement," as they would now be called, in the Quasi-War.[111] This rule-making power requires no declaration of war; indeed, it allows Congress to exercise greater control over an undeclared war than it could over a declared conflict, because in an undeclared war Congress may specify the scope of hostilities. On the other hand, if it declares war, Congress authorizes—subject to its "power of the purse"—virtually unlimited hostilities.[112]

The power to "raise and support armies" and to "provide and maintain a navy" gives Congress the financial leverage to control the magnitude of a war, whether or not Congress has declared war.[113] The framers followed the British model of separating the power to conduct war from the authority to fund it. The president has the power to conduct wartime operations, but Congress controls funding—it can specify the amount of money to be spent.[114] The Constitution specifies, "No money shall be drawn from the Treasury, but in consequence of appropriations made by law."[115] "The executive . . . holds the sword of the community," observed Hamilton; Congress "commands the purse."[116] Congress's use of its power of the purse made the Quasi-War possible, because, as a constitutional expert

has argued, "our first war was fought when Congress agreed to create a navy to make that war feasible."[117]

Finally, to implement its various war powers, Congress may "make all laws which shall be necessary and proper for carrying into execution the foregoing powers, and all other powers vested by this Constitution in the Government of the United States."[118] This clause expressly permits Congress to infer additional authority from its specified powers.[119] "Its terms purport to enlarge, not diminish the powers vested in the government. It purports to be an additional power," wrote Chief Justice John Marshall in *McCulloch v. Maryland*. "Let the end be legitimate, let it be within the scope of the Constitution, and all means which are appropriate, which are plainly adapted to that end, which are not prohibited, but consistent with the letter and spirit of the Constitution, are constitutional."[120] Thus, even without declaring war Congress has constitutional authority to defend the republic against a foreign power.

The Legality of the Quasi-War

Because neither nation formally declared war or invaded the other, some denied at the time that a lawful state of war existed between France and the United States.[121] The war with France was America's first undeclared war under the Constitution.[122] Its very name, which was given to it later, reflects its peculiar nature as a strictly limited, defensive conflict.[123] Controversy has persisted as to whether the United States and France were in a state of war.[124]

After hostilities ceased, American shipowners who had lost vessels to the French had a financial interest in arguing there had been in a legal sense no war, for losses due to warfare are noncompensable.[125] For over eighty years, the spoliation claimants and their successors unsuccessfully petitioned the federal government for indemnity. Finally, in 1885, with the government uncharacteristically plagued by large budget surpluses, Congress passed and President Grover Cleveland signed a law to remedy the perceived injustice that the war with France had extinguished the very spoliation claims that had precipitated it. Congress appointed the Court of Claims to advise it as to the validity of claims "arising out of illegal captures, detentions, seizures, condemnations, and confiscations" by the French.[126]

Carrying out the implied congressional mandate, the court facilitated payment by finding that the shipping losses had resulted from "illegal" seizure rather than war.[127] The court admitted that it had adopted the legal theory "most advantageous to the claimants," despite the fact that Congress during the war had designated France as an enemy and had authorized the use of force.[128] Congress authorized partial payment but never endorsed the court's approach; Congress recognized only a moral, not a legal, obligation.[129] Congress never decided that the Quasi-War was not a real war. Even the House Judiciary Committee chairman, who recommended passage of the bill for reimbursement, declared that the claims had resulted from "a partial maritime war."[130]

The decisions of the Court of Claims did not resolve the controversy. Two federal courts and a successor Court of Claims have since concluded that the opinions in the French spoliation cases are not legal precedent—because the opinions were merely advisory, and because they conflict with Supreme Court decisions.[131] In 1886, despite a result-driven opinion that certain American shipping losses were not due to warfare, the Court of Claims concluded that the Quasi-War had been a "limited war."[132] The court stated, "Within the limits prescribed by Congress there was war; limited, imperfect war, not general war, but war complete to the vessels engaged in it to the extent only of the powers given by the Congress."[133] Yet, strangely, that court and some other officials regarded an undeclared limited war as something less than a state of war.[134] The clear weight of authority, to the contrary, is that a limited undeclared war constitutes a state of war.[135] Still, the controversy over the spoliation claims has never been settled. Congress last debated a bill to compensate spoliation claimants in 1940, voting to postpone indefinitely any consideration of the remaining unpaid claims.[136]

Even the way France and the United States ended the Quasi-War has been used to support the argument that the two countries were never actually at war. In an attempt to obtain French compensation for U.S. shipping losses, the American negotiators pretended that no war had existed. The preamble to the settlement referred to the parties' desire "to terminate the differences which have arisen," without mentioning any war. However, the U.S. negotiators' pretense failed in its object: France refused to pay damages. The Americans shelved the shipping claims and secured peace on the terms France made

available, which included cancellation of the 1778 alliance and recognition of America's right of neutral commerce. Congress ratified the peace settlement in 1801, except for the article postponing claims. Napoleon, who had been demanding recompense for an alleged U.S. failure to honor its treaties with France, then proposed that both sides simply drop their claims. Congress finally agreed. Thus, compensation claims were omitted from the final settlement, and the peace settlement never reflected the U.S. negotiating stance that no state of war had existed.[137]

The advantage of a declared war over an undeclared limited one is that a declaration constitutes an unambiguous announcement to the world of the state of war.[138] The grave disadvantage, however, is that, as noted, a declared war is necessarily an all-out, or general, war in which the hostile nations commit their full military power to each other's destruction.[139] A declaration also puts each belligerent at war with its adversary's allies, immediately escalating the conflict.[140] During the Quasi-War, a congressman predicted that "the moment war is declared with France, we shall also be at war with Spain and Holland, her allies."[141] The drawbacks to a declaration of war are forbidding.

Perhaps for these reasons, declared wars are the exception, not the rule, in modern Western history. Even before adoption of the Constitution, undeclared conflicts had become more common than declared ones.[142] Alexander Hamilton noted in a *Federalist* paper that "the ceremony of a formal denunciation of war has of late fallen into disuse."[143] A federal court observed in 1958 that "during the period between 1700 and 1900 there were nearly 150 wars [worldwide], but only about twenty formal declarations of war, [and] many of those were made after the commencement of hostilities."[144] The United States has engaged in only five declared wars—the War of 1812, the Mexican War, the Spanish-American War, World War I, and World War II.[145] In contrast, it has fought over a hundred undeclared conflicts; estimates range between 125 and 215.[146] The vast majority of them have been short or minor confrontations. Only seven undeclared, foreign conflicts have been "serious and extended engagements"—the Quasi-War, the first Barbary War (1801–1805), the Second Barbary War (1815), the American incursions in Mexico (1914–17), the Korean War (1950–53), the Vietnam War (1961–73), and the Persian Gulf War (1990–91).[147]

Both Thomas Jefferson and James Madison, despite their opposition to the Quasi-War, were to wage limited war during their presidencies without a congressional declaration. President Jefferson fought Tripoli from 1801 to 1805, obtaining congressional ratification only after unilaterally ordering an American fleet against the Barbary States.[148] Even though the pasha of Tripoli had declared war against the United States, Congress, in authorizing hostilities, declined to declare war in response.[149] President Madison, too, waged a limited naval war—against Algiers in 1815—with congressional approval but without a declaration.[150] These early nineteenth-century examples of undeclared limited war show how soon the precedent set by the Quasi-War became accepted practice.

The governments of both France and the United States legally authorized and recognized the Quasi-War. France privately acknowledged it was at war, although it did not formally declare war against the United States. Revolutionary France had repeatedly gone to war without declaration against weaker countries.[151] But unlike those instances, France did not seek to conquer the United States. Therefore, the Directory publicly denied that France was at war, while it privately plotted to destabilize President Adams's administration. The minister of foreign relations, Charles Delacroix, maintained that France was at war with the federal government but not with the American people.[152]At a special session of Congress less than three months into his presidency, Adams warned of the Directory's "disposition to separate the people of the United States from the government."[153] The Directory hoped to inspire a popular revolution in America that would topple Adams's administration, much as the French Revolution had deposed Louis XVI. To achieve this result without alienating the American people and driving the United States into a military alliance with Britain, France conducted a war of limited scale, forces, and military objectives.[154]

As is typical in limited wars, France pursued a policy of escalating levels of hostility. On 2 July 1796, the Directory announced that France would treat Americans just as the British had treated them. The announcement was ambiguous, in that it failed to specify how Americans had been treated by the British; it was in effect an invitation to abuse and plunder. It encouraged and ostensibly legalized persistent French piracy in the Caribbean.[155] French warships and privateers, as noted, confiscated 316 American merchant ships in the

eleven months after the announcement. British captures, which the Directory cited as an excuse for its announcement, reportedly amounted in the same period to just four ships. British admiralty courts ordered two of these ships restored to their owners and ordered the other two condemned for running a British blockade of French Caribbean ports.[156] The British had no policy to impound American ships for carrying contraband. Under Jay's Treaty the British had the right to seize enemy property and war contraband, but they had to reimburse the owners, and they could not confiscate the ships themselves.[157] The British paid compensation for property they seized; the French never did.[158]

On 2 March 1797, in reaction to Adams's defeat of Jefferson for the presidency, the Directory commissioned its warships and privateers to seize U.S.-flagged vessels lacking satisfactory inventory records or containing items that the French deemed contraband. This action violated U.S. shipping rights under its 1778 treaty with France; further, it gave American ships no time to comply, making the entire U.S. merchant fleet fair game for French marauders.[159] The French confiscated one American merchant ship, the schooner *Industry*, and its entire cargo simply because its *rôle d'équipage* (list of crew and passengers) had been "signed only by one notary public, without the confirmation of witnesses."[160] The French had no right even to demand that an American ship carry such a list;[161] the requirement was a pretext for plunder. French officials encouraged that plunder by renting French warships to privateers, and they profited from it by taking payoffs from privateers whose captures they upheld in admiralty court. American seamen on captured U.S. vessels were either stranded or marched off to prison.[162] Those found on British ships faced worse treatment. The Directory announced that France would hang as pirates any Americans found serving on British warships, even those whom the British had pressed into service.[163]

After a Paris coup d'état in September 1797 put hard-liners in control, the Directory decreed on 18 January 1798 that "every vessel found at sea, having on board English provisions and merchandise as her cargo, in whole or in part, shall be declared lawful prize."[164] The decree was issued on the pretense of confiscating British contraband, but in reality the intent was to punish the American government for signing Jay's Treaty. The decree came without warning, offered no prospect of reconciliation, and far exceeded in severity the alleged

transgressions.[165] Reprisals are justified only as a last resort, after demands that the violation of international law cease have been made and have gone unsatisfied, and they must never exceed the severity of the violation.[166] The French decree, however, permitted confiscation of a U.S. ship having nothing more than a British-made compass on board. Since nearly every American ship contained some article of British manufacture, any ship stopped by a French privateer was almost certain to be condemned.[167] A French corsair confiscated the schooner *Little Pegg* solely because its captain was a naturalized U.S. citizen of Scottish birth.[168]

The decree intensified hostilities. The U.S. government viewed it as tantamount to a declaration of maritime war.[169] As Judge Kent later stated, "General reprisals on the persons and property of the subjects of another power are equivalent to open war."[170] President Adams called it "an unequivocal act of war on the commerce" of the United States.[171] Congress did not need to declare war in response, because as Federalist congressman Robert Goodloe Harper of South Carolina exclaimed: "War is made upon us!"[172]

Indeed, a declaration of war from Congress is unnecessary when the United States is attacked. Emmerich de Vattel, an influential eighteenth-century international law scholar who was generally fastidious about a nation's duty to declare war, pronounced, "He who is attacked and only wages defensive war need make no declaration of it, for the declaration on the part of the opposing sovereign, or his open hostilities, are sufficient to set up a state of war."[173] No contemporary writer on the law of nations considered a declaration necessary in a defensive war.[174] Alexander Hamilton insisted, "It belongs to Congress only, to go to war. But when a foreign nation declares, or openly and avowedly makes war upon the United States, they are then by the very fact already at war, and any declaration on the part of Congress is nugatory; it is at least unnecessary."[175] The federal courts agreed. Six years after the end of the Quasi-War, Supreme Court justice William Paterson remarked while deciding a circuit court case, "If, indeed, a foreign nation should invade territories of the United States, . . . a state of complete and absolute war exists between the two nations. In the case of invasive hostilities, there cannot be war on the one side and peace on the other."[176]

The U.S. Navy's first capture of a French ship brought a verbal exchange between the ships' captains that expressed succinctly

America's undeclared and defensive state of war. On 9 July 1798 the twenty-gun sloop of war *Delaware*, a converted packet commanded by Captain Stephen Decatur, Sr., captured the twelve-gun French privateer *La Croyable*, which had been prowling for American merchant ships off the New Jersey coast. The French captain asked resentfully if the United States was at war with France. "No," Decatur reportedly answered, "but your country is with mine." "Oh, but I have a commission for what I do," avouched the privateer captain. "And so have I," replied Decatur.[177]

Congress, through various legislative acts, recognized a state of undeclared war between France and the United States. First, Congress authorized U.S. warships, merchantmen, and privateers to seize armed French ships;[178] by commissioning U.S. vessels to capture hostile French ships, Congress tacitly declared France to be a wartime enemy.[179] During the Revolutionary War, the Continental Congress had designated the British as enemies for the first time in an act of 25 November 1775 declaring armed British vessels open to capture.[180] Likewise, the act of Congress declaring armed French ships open to capture during the Quasi-War was "a declaration, by the supreme power in this country that France was not a friendly power," concluded a contemporary federal court.[181] In Paris, Talleyrand informed the Directory that the act virtually constituted a declaration of war.[182] Under the old Articles of Confederation, issuing letters of marque and reprisal to capture enemy vessels had been commensurate with making war, since either to "engage in war" or to "grant letters of marque and reprisal" in peacetime required the assent of two-thirds of the states.[183] As secretary of state under President Washington, Jefferson had explained the significance of issuing letters of marque and reprisal: "The making of a reprisal on a nation is a very serious thing. Remonstrance and refusal of satisfaction ought to precede, and when reprisal follows, it is considered an act of war."[184] The power to grant letters of marque and reprisal, notes a modern court, "is a power to be invoked only against an enemy."[185] Thus, by authorizing U.S. vessels to fight French ships, Congress recognized France to be an enemy.

Second, Congress rescinded all treaties with France.[186] This was a drastic measure, proclaiming the end of friendly relations between the two nations. According to the custom of the time, it was tantamount to a declaration of war.[187] Judge Kent noted how in the late

eighteenth century the suspension of diplomatic relations became equivalent to a declaration of war:

> Since [the Seven Years' War, of 1756–63], declarations of war, in the ancient solemn form, have been disused. In the war [of the American Revolution], which commenced between England and France, in 1778, the first public act on the part of the English government was the withdrawing of its Minister from France, and that single act was declared by France to be the first breach of the peace. There was no other declaration of war; but each government published a manifesto to the world in vindication of its claims and conduct.[188]

Albert Gallatin, the Democratic-Republican House minority leader, remarked in the debates on suspending the treaties with France that "there seemed to be but little difference between saying the treaties are at an end, and declaring war."[189] Congress cited, as justification for the measure, France's "system of predatory violence, infracting the said treaties, and hostile to the rights of a free and independent nation."[190] Coincident with the measure, President Adams denied diplomatic status to French consuls and announced he would send no minister to France. All formal ties between the governments of America and France were severed.[191]

Third, Congress suspended commerce with France, citing French aggression against America.[192] Federalist congressman Harrison Gray Otis of Massachusetts asked rhetorically in the debates on suspending commerce, "In a state of war, [is it] not usual and proper for all nations to restrain their subjects from a direct trade with their enemies? And are we not in war? Have we not passed a variety of bills which gentlemen have declared amount to war?"[193] In its law suspending commerce, Congress had blistering words for the French. Congress rated as enemies the government of France and all persons acting under its authority, for their "aggressions, depredations and hostilities which have been, and are by them encouraged and maintained against the vessels and other property of the citizens of the United States, and against their national rights and sovereignty, in violation of the faith of treaties, and the law of nations."[194] Supreme Court justice Alfred Moore concluded that the law suspending commerce confirmed America and France were in a state of war. He reasoned, "Congress could only employ the language of the act of 13

June 1798, toward a nation when she is considered as an enemy."[195] In all these ways, Congress indicated that France and the United States were enemies, and at war.

The Federalist administration also offered its official view that, despite the absence of a declaration of war, America was in a state of war with France. One historian has argued that President Adams "held that no actual war existed because Congress, as required by the Constitution, had not declared it."[196] But Adams's own speeches and writings refute this notion. In a speech to Congress, he said that France was conducting "a predatory warfare against the unquestionable rights of neutral commerce."[197] In a letter to his secretary of state, Adams wrote, "Congress has already, in my judgment, as well as in the opinion of the [Supreme Court] judges at Philadelphia, declared war within the meaning of the Constitution against that republic, under certain restrictions and limitations."[198] President Adams firmly concluded that America was in a state of war, despite the absence of a formal declaration.

The attorney general, Charles Lee, agreed that America was legally at war with France. In a written opinion of 21 August 1798, he concluded that both nations had authorized war and that a French alien who assisted his country against the United States was subject to the law of war as an alien enemy: "Having taken into consideration the acts of the French republic relative to the United States, and the laws of Congress passed at the last session, it is my opinion that there exists not only an *actual* maritime war between France and the United States, but a maritime war *authorized* by both nations. Consequently, France is our enemy."[199]

The Supreme Court unanimously agreed that the conflict with France was a lawful war and that France was our enemy, despite the absence of a declaration of war. In *Bas v. Tingy*, the commander of a U.S. warship sued (on behalf of his ship's company as well as himself) for half the value of an American merchant ship, *Eliza*, that he had recaptured from a French privateer.[200] The officer relied upon an act of 2 March 1799 that allowed salvage of half the value of an American-owned vessel taken from "the enemy."[201] The owner of the *Eliza*, who did not wish to pay the naval commander and his crew half the value of the ship, argued that this act was inapplicable, that France was not an "enemy," because Congress had not declared war. The Supreme Court, with justices writing separately in the common-

law custom, sided with the naval officer and held that the act applied. The word "enemy" pertained to France, the Court found, for two fundamental reasons: the United States and France were engaged in actual hostilities by armed forces; and Congress had intended the word "enemy" to describe France. War could exist without a declaration from Congress, wrote Justice Bushrod Washington, nephew of George Washington and former delegate to the Virginia convention that had ratified the Constitution. "Every contention by force, between two nations, in external matters, under the authority of their respective governments, is not only war, but public war."[202]

There are two types of war, wrote Justice Washington—"perfect," or general, and "imperfect," or limited—and Congress may authorize either one through its war powers. A declared war is a "perfect" war "because one whole nation is at war with another whole nation; and all members of the nation declaring war are authorized to commit hostilities against all members of the other, in every place, and under every circumstance." On the other hand, Congress may make hostilities "more confined" and "limited as to places, persons, and things; and this is more properly termed imperfect war . . . because those who are authorized to commit hostilities act under special authority, and can go no further than to the extent of their commission." An imperfect war interrupts the peace only to a limited extent. The hostilities with France constituted an imperfect war, because they were limited and "authorized by the legitimate authority of the two governments." After France had commissioned warships and privateers to plunder American shipping, Congress had passed legislation to combat French depredations. The French, therefore, were our enemies. "If they were not our enemies," confessed Justice Washington, "I know not what constitutes an enemy."[203]

Justice Alfred Moore, inspired to write his only opinion in his five years on the Court, eloquently concurred: "It is for the honor and dignity of both nations . . . that they should be called enemies; for, it is by that description alone, that either could justify or excuse, the scene of bloodshed, depredation and confiscation, which has unhappily occurred." Justice Samuel Chase, a signer of the Declaration of Independence and coauthor of the Articles of Confederation, reported that the justices agreed unanimously that the United States was in a lawful state of war with France, despite the absence of a declaration of war. "Congress is empowered to declare a general war,"

he wrote, "or Congress may wage a limited war; limited in place, in object, in time." Speaking now of the Quasi-War, he continued, "In my judgment it is a limited, partial war. Congress has not declared war in general terms; but Congress has authorized hostilities on the high seas by certain persons in certain cases." Justice Paterson, a framer of the Constitution, added, "An imperfect war, or a war as to certain objects, and to a certain extent, exists between the two nations; and this modified warfare is authorized by the constitutional authority of our country."[204]

Democratic-Republicans widely condemned the Court's decision. Partisan resentment grew so strong that some Jeffersonians urged impeachment of the justices who had rendered the decision.[205] Philadelphia's leading Democratic-Republican newspaper, the *Aurora*, fumed that the decision was the "most important and momentous to the country, and in our opinion every Judge who asserted we were in a state of war, contrary to the rights of Congress to declare it, ought to be impeached."[206] But the decision stood.

One year later, after the war had ended, Chief Justice John Marshall, writing for a unanimous Court, reaffirmed the conclusion of *Bas v. Tingy* that America and France had been in a state of war. In *Talbot v. Seeman*, Marshall explained, "Congress may authorize general hostilities, in which cases the general laws of war apply to our situation; or partial hostilities, in which case the laws of war, so far as they actually apply to our situation, must be noticed."[207] The limited "direct and declared object of the war" authorized by Congress, noted Marshall, "was the protection of American commerce."[208] In another opinion the chief justice, again writing for a unanimous Court, restored a captured French vessel to its owners pursuant to the Môrtefontaine Convention that ended the war; the Court had concluded that the convention superseded the U.S. captor's "individual rights acquired by war."[209] The Court stressed, however, in another case that the president could not order hostilities in a limited war that exceeded the specific authority granted by Congress. In *Little v. Barreme*, the Court invalidated an executive order authorizing the interception of vessels sailing *to or from* French ports, when Congress had authorized the interception of vessels sailing only *to* the ports. Nevertheless, the Court recognized that France and the United States had been enemies at war.[210]

"It is clear that there can be an 'enemy,' even though our country is not in a declared war," concluded a twentieth-century federal court in retrospect, citing *Bas v. Tingy* while dismissing a lawsuit challenging the constitutionality of the undeclared Vietnam War. "The hostilities against France in 1799 were obviously not confined to repelling attack. This was an authorized but undeclared state of warfare."[211]

The scholarly Justice Joseph Story alluded two decades after the fact to the Quasi-War as an example of the lawful exercise of congressional power to wage limited war:

> The power to declare war may be exercised by Congress, not only by authorizing general hostilities, in which case the general laws of war apply to our situation; [but] by partial hostilities, in which case the laws of war, so far as they actually apply to our situation, are to be observed. . . . The latter course was pursued in the qualified war of 1798 with France, which was regulated by divers acts of Congress, and of course was confined to the limits prescribed by those acts.[212]

The operation of U.S. prize courts during the conflict further demonstrated that America and France were legally in a state of war. A prize court is a type of admiralty court that adjudicates wartime captures made at sea and "condemns" lawfully captured enemy vessels, awarding them as prizes to their captors.[213] If the United States was not legally in a state of war, its prize courts could not condemn captured French ships;[214] only a nation in a state of war can do so.[215] The lone exception is when a neutral nation's "sovereign or territorial rights are violated" by the parties at war.[216] The fact that U.S. prize courts condemned French ships taken by U.S. captors verified the legal existence and constitutionality of the war.[217]

Some have held that no war existed on the grounds that U.S. prize courts allowed French aliens to seek recovery of their captured vessels. The argument is that since alien enemies are allegedly barred from appearing in court, the Frenchmen must not have been enemies, and there must have been no war. A law review author has adopted this argument, citing as authorities a Massachusetts senator who sought federal indemnity for his constituents' shipping losses, as well as a Massachusetts court decision that the Supreme Court had reversed.[218] Contrary to that view, however, U.S. prize courts

generally have allowed alien enemies in the United States to defend their vessels against condemnation.[219] During the Revolutionary War, the courts allowed British enemy aliens to seek recovery of their captured vessels.[220] An authority on prize jurisprudence has noted that the law has "consistently confirmed the right of foreign nationals to appear before an admiralty tribunal and challenge the lawfulness of a capture."[221]

Almost two hundred years later, the Supreme Court confirmed the Quasi-War's constitutionality. In *United States v. Verdugo-Urquidez*, the Court cited the war as historical precedent supporting its holding that the Fourth Amendment did not apply to a search of an alien's foreign residence.[222] Writing for the majority, Chief Justice William Rehnquist noted that only seven years after ratification of the amendment, during the Quasi-War, Congress enacted a law authorizing naval commanders to seize armed French vessels on the high seas. At the time, "it was never suggested that the Fourth Amendment restrained the authority of Congress or of United States agents to conduct operations such as this."[223] The Court was implicitly relying upon the constitutionality of the Quasi-War in support of a ruling; no one questioned the legality of the Quasi-War, even though the majority and two dissenting justices referred to it as an "'undeclared war' with France."[224] Even the dissenters did not challenge the constitutionality of the war but simply characterized the historical precedent as applying only to enemies in wartime.[225] All the justices seemed implicitly to accept Justice Oliver Wendell Holmes's familiar aphorism that in interpreting the Constitution, "a page of history is worth a volume of logic."[226]

Judicial reliance on the precedent of the Quasi-War continues. The military courts, as recently as 1998, have cited the case of *Bas v. Tingy* in support of the proposition that a "time of war" under the Uniform Code of Military Justice exists when it is recognized by the executive and legislative branches; a declaration is unnecessary.[227] Other courts generally find that to be the case.[228]

Thus, all three branches of government agreed that during the Quasi-War the French were in fact our enemies and America was legally in a state of war. Although Congress made no declaration of war, Congress authorized it through other constitutional powers and, during the course of the conflict, enacted strong legislation in its pursuit.

End of the Quasi-War

The U.S. government's determined and forceful response surprised the Directory, which soon sought to extricate France from the hostilities it had commenced. But ending the hostilities proved far more difficult than commencing them. Greedy privateers and corrupt administrators disregarded the Directory's efforts to ameliorate and rescind its harsh decrees. French raiders continued to plunder American shipping, and the governor of Guadeloupe, on his own authority, declared war on the United States on 14 March 1799.[229]

The Directory, however, suffered military setbacks in Europe, the Middle East, and the Caribbean, and itself was wracked by political upheaval. A second coup d'état on 18 June 1799 replaced all but one member of the Directory; another on 9 November 1799 ousted the Directory entirely and brought Napoleon Bonaparte to power. He anxiously sought peace with the United States, in view of the success of America's new navy against a French navy already crippled by its losses to the British at the August 1798 battle of the Nile.[230] During the Quasi-War, the U.S. Navy captured eighty-six French privateers and a warship, *l'Insurgente*, while losing only a single vessel.[231] Napoleon was about to acquire Louisiana clandestinely from Spain, and he wished to avoid hazarding that prize by war with America while France remained at war with Britain as well.[232]

In Washington, however, certain cabinet members, influenced by Alexander Hamilton, wanted a wider war with France and Spain, whereby they expected to annex Louisiana and liberate Latin America from Spanish rule. Adams steadfastly opposed widening the war. Seeing themselves deprived of a potent political issue and an opportunity to seize territory from France and its allies, the Federalist Party's hawks turned against the president when he entered peace negotiations with France. Hamilton was convinced that "France will . . . grant us fair terms and not keep them. Meantime our election will occur and bring her friends into power." Adams, determined to end the war amicably, dismissed almost half of his cabinet.[233] He was later to request that his tombstone bear the sole epitaph: "Here lies John Adams, who took upon himself the responsibility of peace with France in the year 1800."[234]

According to a naval historian, "in [Adams's] astute handling of the Quasi-War with France he proved to be one of the greatest

wartime presidents in American history"; nonetheless, he lost favor with the electorate as well as his own party in the election of 1800.[235] The electorate thought the war was lasting too long and costing too much, while many Federalists, conversely, wanted to widen the war. Professor Yoo has remarked, "Although vilified by both the Federalists and Jeffersonians for his middle ground, Adams surely acted in the best interests of the nation by countering French attacks on American shipping without embroiling the nation more deeply in the European wars. Adams's tale serves as a powerful example of the duty of the President, and the political price he can pay for pursuing the national interest."[236]

The American public came to perceive the high taxes the government had imposed to strengthen the nation's defenses as unnecessary because of Adams's peace negotiations. The taxes were widely resented, and there had been revolts.[237] As Jefferson had wisely foreseen in 1798, "At this moment all the passions are boiling over. . . . However, the fever will not last. War, land tax and stamp tax, are sedatives which must cool its ardor."[238]

Limited wars of long duration have been generally unpopular with the American public. The late Robert Endicott Osgood, dean of the Johns Hopkins School of Advanced International Studies (and sometime National Security Council staff member under Henry Kissinger, as well as lecturer at the Naval War College), has described the public's concept of war in these terms:

> War as something to abolish, war as something to get over as quickly as possible, war as a means of punishing the enemy who dared to disturb the peace, war as a crusade—these conceptions are all compatible with the American outlook. But war as an instrument for attaining concrete, limited political objectives, springing from the continuing stream of international politics and flowing toward specific configurations of international power—somehow this conception seems unworthy to a proud and idealistic nation.[239]

News of a peace settlement between the United States and France—the Môrtefontaine Convention of 30 September 1800—arrived too late to benefit either Adams or the Federalists.[240] The Democratic-Republicans gained control of Congress in the fall elections, and their presidential candidates, Thomas Jefferson and Aaron Burr,

received equal numbers of votes in the electoral college, narrowly defeating Adams and his running mate, Charles Cotesworth Pinckney. The tie between Jefferson and Burr sent the presidential election to the lame-duck House of Representatives, where congressional Federalists reluctantly allowed Jefferson the necessary majority on the thirty-sixth ballot, resulting in his election as the nation's third president.

The Federalists never regained control of either the presidency or Congress. Nonetheless, Adams and the Federalists left a legacy. In his last speech to Congress, President Adams praised the U.S. Navy and urged its continuation.[241] The lame-duck Federalist Congress acted on his recommendation, sending him two bills to assure the preservation of the Navy. He signed them, establishing the first peacetime navy in U.S. history, on his last full day in office, 3 March 1801.[242]

Meanwhile, France had secretly acquired Louisiana from Spain on 1 October 1800—the day after France had signed its peace treaty with the United States.[243] A year later France signed an armistice with Britain, preserving French possessions;[244] Napoleon and Talleyrand intended to build a new French colonial empire in North America, with Louisiana as the foundation.[245] Upon learning of France's duplicity, President Jefferson angrily threatened war.[246] Napoleon (who had already sent in 1802 an army to Haiti, to put down the Toussaint-Louverture rebellion) methodically assembled a force to implement French dominion in North America, but the fleet could not sail because of the onset of bad weather in February 1803.[247]

In May, as renewed hostilities between Britain and France grew imminent, Napoleon decided to sell the entire Louisiana territory—against the wishes of several of his political partners—to America for sixty million francs (approximately fifteen million dollars) rather than risk fighting a war on two continents.[248] Napoleon declared:

> I will not keep a possession which will not be safe in our hands, that may perhaps embroil me with the Americans or may place me in a state of coolness with them. I shall make it serve me, on the contrary, to attach them to me, to get them into differences with the English, and I shall create for them enemies who will one day avenge us, if we do not succeed in avenging ourselves. My resolution is fixed; I will give Louisiana to the United States. But as they have no territory to

> cede to me in exchange, I shall demand of them a sum of money to pay the expenses of the extraordinary armament I am projecting against Great Britain.[249]

As fate would have it, a dozen years later the United States and Britain would fight over Louisiana at the battle of New Orleans. The United States would win the battle decisively, in one of its few land victories in the congressionally declared War of 1812. Congress had declared war at the insistence of President Madison, because of British violations of neutral American shipping—even though both France and Britain had done the same during the Napoleonic wars.[250]

* * *

Since the early days of the American republic, a distinction has been recognized between a general, or "perfect," war, customarily begun with a formal declaration of war, and a limited, or "imperfect," war, authorized by Congress without a declaration. The Quasi-War was America's first limited war: limited in its objectives, scale, forces, and targets. This undeclared war was divisive and controversial, with distinguished statesmen on both sides of the constitutional debate. But the fact that on this occasion the United States engaged in war with the approval of all three branches of government and when several who had written the Constitution were still alive and serving in government strongly implies that the United States pursued the war in compliance with the intent of the framers. The Quasi-War proved that the United States may lawfully wage war against a foreign power without a declaration of war.

Notes

1. See *Montoya v. United States*, 180 U.S. 261, 264–267 (1900); *The Prize Cases (The Amy Warwick)*, 67 U.S. (2 Black) [hereafter *The Prize Cases*], 635, 652–668 (1862); *Black's Law Dictionary*, 6th ed. (St. Paul, Minn.: West Publishing, 1990), p. 1583; and U.S. Army Dept., *International Law*, DA Pam 27-161-2, vol. 2 (Washington, D.C.: 1962), pp. 2–4, 27–8.

2. Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton, N.J.: Princeton Univ. Press, 1984), p. 69.

3. *United States v. Flores*, 289 U.S. 137, 155–156 (1933); *United States v. Rodgers*, 150 U.S. 249, 264 (1893); *Wilson v. McNamee*, 102 U.S. 572, 574 (1880).

4. Clausewitz, p. 87.

5. See Henry Kissinger, *Nuclear Weapons and Foreign Policy*, abridged ed. (New York: W. W. Norton, 1969), pp. 130–1, 189–90; and Robert McClintock, *The Meaning of Limited War* (Boston: Houghton Mifflin, 1967), p. 199.

6. *Gray v. United States*, 21 Ct. Cl. 340, 375 (1886).

7. See *Black's Law Dictionary*, p. 1583; and Robert E. Osgood, *Limited War: The Challenge to American Strategy* (Chicago: Univ. of Chicago Press, 1957), pp. 88–119.

8. Larry H. Addington, *The Patterns of War since the Eighteenth Century*, 2d ed. (Bloomington: Indiana Univ. Press, 1994), pp. 270–7.

9. For example, Thomas R. Stauch, "The United States and Vietnam: Overcoming the Past and Investing in the Future," *International Law*, vol. 28, p. 995 n. 1.

10. McClintock, p. 10.

11. DA Pam 27-161-2, p. 23; and James T. Johnson, *Just War Tradition and the Restraint of War* (Princeton, N.J.: Princeton Univ. Press, 1981), p. 190.

12. Johnson, pp. 191–6.

13. Clausewitz, p. 81.

14. Kissinger, p. 120.

15. See Johnson, p. 193; Kissinger, p. 120; and R. Ernest Dupuy and Trevor N. Dupuy, *The Harper Encyclopedia of Military History: From 3500 B.C. to the Present*, 4th ed. (New York: HarperCollins, 1993), p. 1083.

16. See Jeffrey W. Legro, *Cooperation under Fire: Anglo-German Restraint during World War II* (Ithaca, N.Y.: Cornell Univ. Press, 1995), pp. 144–216.

17. Kissinger, p. 120.

18. See "Hague Convention No. IV, Respecting the Laws and Customs of War on Land, 18 October 1907, Preamble," 36 Stat. 2277; and U.S. Army Dept., *The Law of Land Warfare*, Field Manual [hereafter FM] 27-10 (Washington, D.C.: 1956), p. 3.

19. Johnson, pp. 191–6.

20. Kissinger, p. 120.

21. Eugene V. Rostow, "President, Prime Minister, or Constitutional Monarch," *American Journal of International Law*, vol. 83, 1989, p. 744.

22. John C. Yoo, "The Continuation of Politics by Other Means: The Original Understanding of War Powers," *California Law Review*, vol. 84, 1996, p. 205.

23. See Joseph W. Bishop, Jr., "Declaration of War," in *Encyclopedia of the American Constitution*, vol. 2, ed. Leonard W. Levy (New York: Macmillan, 1986), p. 549.

24. See *The Prize Cases*, p. 668.

25. William Winthrop, *Military Law and Precedents*, 2d ed. (Washington, D.C.: U.S. Govt. Print. Off., 1920), p. 668. For the "Blackstone" reference, *Reid v. Covert*, 354 U.S. 1 (1954) (Black, J.).

26. See *United States v. Keehler*, 76 U.S. (9 Wall.) 83, 86–87 (1869); *Penhallow v. Doane*, 3 U.S. (3 Dall.) 54 (1795); William B. Clark, ed., *Naval Documents of the American Revolution*, vol. 4 (Washington, D.C.: U.S. Govt. Print. Off., 1969), p. 454 n. 3 (Continental Congress draft law authorizing privateering and recounting British depredations against the American colonies "previous to any war declared against us").

27. See *Montoya v. United States*, 180 U.S. 261, 267 (1900); Francis D. Wormuth and Edwin B. Firmage, *To Chain the Dog of War: The War Power of Congress in History and Law* (Urbana: Univ. of Illinois Press, 1989), pp. 127–33.

28. John W. Ragsdale, "The Dispossession of the Kansas Shawnee," *University of Missouri at Kansas City Law Review*, vol. 58, 1990, pp. 218–20.

29. See Wormuth and Firmage, p. 29; Clyde Eagleton, "The Form and Function of the Declaration of War," *American Journal of International Law*, vol. 32, 1938, p. 26.

30. *Cherokee Nation v. Georgia*, 30 U.S. (5 Pet.) 1, 17, 19 (1831).

31. Edward Keynes, *Undeclared War: Twilight Zone of Constitutional Power* (University Park: Pennsylvania State Univ. Press, 1982), pp. 31–3.

32. Joseph Story, *Commentaries on the Constitution of the United States*, vol. 3 (Boston: Little, Brown, 1833), § 1166. For what constitutes a declaration of war, see Eagleton.

33. For examples of academics' views, *Velvel v. Johnson*, 287 F.Supp. 846 (D. Kan. 1968) (dismissing a University of Kansas law professor's lawsuit alleging that the Vietnam War was unconstitutional because it was undeclared), aff'd, 415 F.2d 246 (10th Cir. 1969), cert. denied, 396 U.S. 1042 (1970); and J. Gregory Sidak, "To Declare War," *Duke Law Journal*, vol. 41, 1991, p. 27. For courts' views see, for example, *Massachusetts v. Laird*, 400 U.S. 886, 900 (1970) (Douglas, J., dissenting).

34. *Koohi v. United States*, 976 F.2d 1328, 1334 (9th Cir. 1992) (citing Sidak).

35. John H. Ely, "The American War in Indochina, Part I: The Unconstitutionality of the War They Didn't Tell Us About," *Stanford Law Review*, vol. 42, 1990, p. 888.

36. For example, Frank B. Cross and Stephen M. Griffin, "A Right of Press Access to the United States Military Operations," *Suffolk University Law Review*, vol. 21, 1987, p. 1000.

37. See Leonard W. Levy and Louis Fisher, eds., *Encyclopedia of the American Presidency*, vol. 3 (New York: Simon and Schuster, 1994), p. 1267; Alexander DeConde, *The Quasi-War: The Politics and Diplomacy of the Undeclared War with France 1797–1801* (New York: Scribner's, 1966), p. vii; Harold Hongju Koh, "Dollar Diplomacy/Dollar Defense: The Fabric of Economics and National Security Law," *International Lawyer*, vol. 26, 1992, p. 720; and Sidak, p. 56.

38. Dean Alfange, Jr., "The Quasi-War and Presidential Warmaking," in *The Constitution and the Conduct of American Foreign Policy*, ed. David G. Adler and Larry N. George (Lawrence: Univ. Press of Kansas, 1996), p. 274; "New Rules and Institutions for the Peaceful Settlement of International Disputes" (symposium), *American Society of International Law Proceedings*, vol. 76, 1984, p. 139 n. 1; and DeConde, *The Quasi-War*, p. vii.

39. See "Treaty of Alliance with France, 6 February 1778," 8 Stat. 6; "Secret Treaty with France, February 6, 1778," 17 Stat. 795; and Barbara Tuchman, *The First Salute* (New York: Knopf, 1988) pp. 212–5, 241.

40. Jean Favier et al., eds. *Chronicle of the French Revolution* (New York: Chronicle Publications, 1989), pp. 415–6, 426, 437; and Christopher Hibbert, *The Days of the French Revolution* (New York: William Morrow, 1980), pp. 69–188, 221–88, 332–4.

41. See "Neutrality Proclamation (April 22, 1793)," in Walter Lowrie and Matthew St. Clair Clarke, eds., *U.S. Congress, American State Papers: Foreign Relations*, vol. 1 (Washington, D.C.: Gales and Seaton, 1833), p. 140; and James W. Gerard, "French Spoliations before 1801," *Magazine of American History*, July 1884, pp. 31–2.

42. James Kent, *Commentaries on American Law*, ed. Oliver W. Holmes, vol. 1, 12th ed. (Boston: Little, Brown, 1873), pp. 50–1.

43. Alexander DeConde, *Entangling Alliance: Politics and Diplomacy under George Washington* (Durham, N.C.: Duke Univ. Press, 1958), pp. 193, 227–228, 306.

44. Ralph Adams Brown, *The Presidency of John Adams* (Lawrence: Univ. Press of Kansas, 1975), pp. 36–7; and DeConde, *The Quasi-War*, pp. 94, 360–80.

45. See "Jay's Treaty, 19 November 1794," arts. 17–18, 23–25, 8 Stat. 116, 125–126; "Treaty of Amity and Commerce with France, 6 February 1778," art. 19, 8 Stat. 12, 22–24.

46. Charles Cotesworth Pinckney, *Dictionary of American Biography*, ed. Dumas Malone (New York: Scribner's, 1934), p. 615; and U.S. Congress, *American State Papers: Foreign Relations*, vol. 2 (Washington, D.C.: Gales and Seaton, 1832), pp. 6–8.

47. Addington, pp. 8–9; and DeConde, *The Quasi-War*, pp. 498–9.

48. Lowrie and Clarke, eds., vol. 2, pp. 28–63.

49. Brown, p. 71; and DeConde, *The Quasi-War*, pp. 124–5.

50. Michael T. Palmer, *Stoddert's War: Naval Operations during the Quasi-War with France 1798–1801* (Columbia: Univ. of South Carolina Press, 1987), p. 6 (calculating the total at 2,309); and S. Rep. 10, 41st Cong., 2d Sess. (1870), reprinted in 46 *Cong. Rec.* 366, 377 (1910) (calculating the total at 2,290). Some sources give 1801 as the ending date of the Quasi-War, because it was in February 1801 that Congress ratified the Môrtefontaine Convention, which terminated the war. However, the fourth article of the convention specified that all captured ships not condemned as of its signing on 30 September 1800 were to be restored to their owners. The article became effective immediately. "Convention between the French Republic and the United States (Môrtefontaine Convention), 30 September 1800," 8 Stat.178. Therefore, the date of the convention marked the end of the naval war between France and the United States.

51. See "Treaty of Alliance with France," art. 6; "Definitive Treaty of Peace between France, Great Britain, and Spain, 10 February 1763," in Clive Parry, ed., *The Consolidated Treaty Series*, vol. 42 (Dobbs Ferry, N.Y.: Oceana, 1969), p. 279; John Keats, *Eminent Domain: The Louisiana Purchase and the Making of America* (New York: Charterhouse, 1973), pp. 269–70; and DeConde, *The Quasi-War*, pp. 114–6, 414 n. 12.

52. See John R. Elting, *Swords around the Throne: Napoleon's Grand Armée* (New York: Free Press, 1988), p. 55; and Brown, pp. 37, 150.

53. "Act Providing Naval Armament, 1 July 1797," § 12, ch. 7, 1 Stat. 350.

54. See "Act to Provide Naval Armament, 27 March 1794," ch. 12, 1 Stat. 350, superseded by Act of 20 April 1796, ch. 14, 1 Stat. 453, superseded by Act of March 3, 1797, ch. 57, 1 Stat. 508, superseded by Act of 1 July 1797, ch. 7, 1 Stat. 350; and Marshall Smelser, *The Congress Founds the Navy, 1787–1798* (South Bend, Ind.: Notre Dame Univ. Press, 1959), pp. 56–8, 72–100, 116–8.

55. "Act Prohibiting Exportation and Encouraging Importation of Arms and Ammunition," ch. 2, 1 Stat. 520; "Act for Defense of Ports and Harbors," ch. 3, 1 Stat. 521; "Act Authorizing a Detachment of Militia," ch. 4, 1 Stat. 522.

56. "John Adams's Speech to Congress (16 May 1797)," in Charles F. Adams, ed., *The Works of John Adams, Second President of the United States: With a Life of the Author*, vol. 9 (Boston: Little, Brown, 1854), pp. 115–7; "John Adams's Speech to Congress (23 November 1797)," in ibid., pp. 121–5; "Letter of John Adams to Secretary of the Treasury Oliver Wolcott, Jr. (27 October 1797)," in ibid., vol. 8, pp. 558–9; "Letter of John Adams to Secretary of State Timothy Pickering (14 October 1797)," in ibid., vol. 8, p. 554; and Smelser, pp. 102–20.

57. Stanley Elkins and Eric McKitrick, *The Age of Federalism: The Early American Republic, 1788–1800* (New York: Oxford Univ. Press, 1993), pp. 555–73; DeConde, *The Quasi-War*, pp. 10–2, 28, 41, 46–9.

58. DeConde, *The Quasi-War*, p. 394 n. 20; and Kent, p. 116.

59. See Elkins and McKitrick, pp. 573–9; Brown, pp. 31, 60; and DeConde, *The Quasi-War*, pp. 46–59, 140–7.

60. Médéric-Louis-Elie Moreau de Saint-Méry, *Moreau de St. Méry's American Journey, 1793–1798*, ed. and trans. Kenneth Roberts and Anna M. Roberts (Garden City, N.Y.: Doubleday, 1947), pp. 91–2 n. 3.

61. "John Adams's Message to Congress (19 March 1798)," in Charles F. Adams, ed., vol. 9, p. 157.

62. "John Adams's Speech to Congress (16 May 1797)," in ibid., p. 116.

63. "Letter of John Adams to Secretary of the Treasury Oliver Wolcott, Jr. (27 October 1797)," in ibid., vol. 8, pp. 558–9.

64. See "John Adams's Message to Congress (19 March 1798)," in ibid., vol. 9, p. 157; and DeConde, *The Quasi-War*, pp. 69–70.

65. John D. Pelzer, "Armed Merchantmen and Privateers: Another Perspective on America's Quasi-War," *American Neptune*, vol. 50, 1990, p. 270.

66. See Jacob K. Javits, *Who Makes War: The President versus Congress* (New York: William Morrow, 1973), p. 29.

67. "Thomas Jefferson to James Monroe (21 March 1798)," in Paul L. Ford, ed., *The Writings of Thomas Jefferson*, vol. 7 (New York: G. P. Putnam, 1896), p. 221; letter from James Madison to Thomas Jefferson, 2 April 1798, reprinted in Abraham D. Sofaer, *War, Foreign Affairs and Constitutional Power: The Origins* (Cambridge, Mass.: Ballinger, 1976), p. 143 n; Brown, pp. 51–4; and DeConde, *The Quasi-War*, pp. 70–7.

68. See "Letter from John Adams to the Printers of the *Boston Patriot* (10 June 1809)," in Charles F. Adams, ed., vol. 9, p. 304; Elkins and McKitrick, pp. 582–97, 610–2; John Ferling, *John Adams: A Life* (New York: Henry Holt, 1992), pp. 356–7, 369; and Page Smith, *John Adams, 1784–1826* (Garden City, N.Y.: Doubleday, 1962), pp. 952–5. But see DeConde, *The Quasi-War*, pp. 106–7 (imputing Abigail Adams's continuing wish for a declaration of war to her husband).

69. See Philip Bobbitt, "War Powers: An Essay on John Hart Ely's War and Responsibility: Constitutional Lessons of Vietnam and Its Aftermath," *Michigan Law Review*, vol. 92, 1994, p. 1364.

70. Smith, p. 979; and Smelser, pp. 197–8.

71. DeConde, *The Quasi-War*, p. 334.

72. Robert W. Love, Jr., *History of the U.S. Navy 1775–1941*, vol. 1 (Harrisburg, Penna.: Stackpole Books, 1992), pp. 59–60, 69–70; and Brown, pp. 88–90, 103–8.

73. Clausewitz, p. 93.

74. The slogan originated as a toast for John Marshall at a banquet in his honor, upon his return to America from France. DeConde, *The Quasi-War*, p. 93. Another toast lauded Adams while lampooning Jefferson: "To Adams: may he, like Samson, slay thousands of Frenchmen with the *jawbone* of Jefferson." Fawn M. Brodie, *Thomas Jefferson: An Intimate History* (New York: Norton, 1974), p. 407.

75. "Act to Declare the Treaties with France No Longer Obligatory, 7 July 1798," ch. 67, 1 Stat. 578; "Act to Suspend the Commercial Intercourse between the United States and France, 13 June 1798," ch. 53, 1 Stat. 565, amended by "Act of 16 July 1798," ch. 86, 1 Stat. 611; "Act to Authorize the Defense of Merchant Vessels, 25 June 1798," ch. 60, 1 Stat. 572; "Act to Protect the Commerce and Coasts, 28 May 1798," ch. 48, 1 Stat. 561, amended by "Act of 28 June 1798," ch. 62, 1 Stat. 574, amended by "Act of 9 July 1798," ch. 68, 1 Stat. 578; "Act Concerning Aliens (Alien Act), 25 June 1798," ch. 58, 1 Stat. 570; "Sedition Act, 14 July 1798," ch. 74, 1 Stat. 596; "Act to Provide for the Valuation of Lands and Dwelling Houses and the Enumeration of Slaves within the United States, 9 July 1798," ch. 70, 1 Stat. 580; "Act to Collect a Direct Tax within the United States, 14 July 1798," ch. 75, 1 Stat. 597; "Act to Provide Armament for the Protection of Trade, 27 April 1798," ch. 35, 1 Stat. 552, amended by "Act of 30 June 1798," ch. 64, 1 Stat. 575; "Act to Augment the U.S. Army, 27 April 1798," ch. 36, 1 Stat. 552, amended by "Act of 16 July 1798," ch. 76, 1 Stat. 604, repealed by "Act of 14 May 1800," ch. 69, 2 Stat. 85; "Act for the Defense of Ports and Harbors, 3 May 1798," ch. 40, 1 Stat. 554; "Act Authorizing the President to Procure Arms and Ammunition, 4 May 1798," ch. 41, 1 Stat. 555; "Act to Purchase Galleys, 4 May 1798," ch. 42, 1 Stat. 556, amended by Act of 22 June 1798, ch. 55, 1 Stat. 569; "Act Authorizing the President to Raise a Provisional Army, 28 May 1798," ch. 47, 1 Stat. 558, amended by "Act of 22 June 1798," ch. 55, Stat. 569; and "Act for Naval Armament, 16 July 1798," ch. 82, 1 Stat. 608.

76. See "Letter from John Adams to the Boston Marine Society (7 September 1798)," in Charles F. Adams, ed., vol. 9, p. 221.

77. "Act to Establish an Executive Department of the Navy, 30 April 1798," ch. 38, 1 Stat. 553; and "Act for Establishing a Marine Corps, 11 July 1798," ch. 72, 1 Stat. 594.

78. Elkins and McKitrick, pp. 644–5; and DeConde, *The Quasi-War*, pp. 125–6.

79. See *Clinch v. United States (Schooner Endeavor)*, 44 Ct.Cl. 242 (1909); and Smelser, pp. 188–90.

80. Kissinger, p. 141.

81. "Act to Suspend the Commercial Intercourse between the United States and France, 13 June 1798," § 5, ch. 53, 2 Stat. 565; and "Act to Declare the Treaties with France No Longer Obligatory, 7 July 1798."

82. Alan Schom, *Napoleon Bonaparte* (New York: HarperCollins, 1997), pp. 71–132; DeConde, *The Quasi-War*, pp. 84–5; and Jon Latimer, "French Farce at Fishguard," *Military History*, March 1997, p. 38.

83. "Act Authorizing the President to Raise a Provisional Army, 28 May 1798," § 5, ch. 47, 1 Stat. 558 (commissioning General Washington as commander of the U.S. Army); Ferling, pp. 355–60; and DeConde, *The Quasi-War*, at pp. 84, 96–7.

84. Letter from George Washington to Secretary of War James McHenry, 25 March 1799, in John C. Fitzpatrick, ed., *The Writings of George Washington from the Original Manuscript Sources, 1745–1799*, vol. 37 (Washington, D.C.: U.S. Govt. Print. Off., 1940), p. 160.

85. "Letter from George Washington to Timothy Pickering (11 July 1798)," in Fitzpatrick, ed., vol. 36, p. 324; "Letter from George Washington to Alexander Hamilton (14 July 1798)," in ibid., pp. 331–4.

86. DeConde, *The Quasi-War*, pp. 80–98, 329–30.

87. "Debates in the Federal Convention of 1787 as Reported by James Madison (1787)," in *Documents Illustrative of the Formation of the Union of the American States*, H.R. Doc. 398, 69th Cong., 1st Sess., 1927, pp. 475, 561–2; and Sofaer, *War, Foreign Affairs and Constitutional Power*, pp. 31, 57.

88. See *McCulloch v. Maryland*, 17 U.S. (4 Wheat.) 316, 324, 407 (1819) (Marshall, C. J., unanimous opinion).

89. Alexander Hamilton, "Federalist 23," in *The Federalist Papers*, ed. Clinton L. Rossiter (New York: Penguin, 1961), p. 153.

90. U.S. Constitution, art. 1, sec. 8, cl. 11.

91. Respectively clauses 1, 12 (both army and navy), and 15 of section 8; section 9, clause 2; section 10, clause 3; and section 8, clause 14.

92. U.S. Constitution, art. 4, sec. 5.

93. Ibid., art. 1, sec. 8, cl. 18.

94. Respectively, art. 2, sec. 1, cl. 1; art. 2, sec. 3; art. 2, sec. 1 (last two powers). For faithful execution, see *Citizens Protective League v. Clark*, 155 F.2d 290, 294 (D.C. Cir. 1946).

95. See "War Powers Resolution," 7 November 1973, 50 U.S.C. § 1541(c) (West 1997); *In re Neagle*, 135 US. 1, 63–70 (1890); *The Prize Cases*, 635, 666 (1862); *Mitchell v. Laird*, 488 F.2d 611, 615 (D.C. Cir. 1973); *Massachusetts v. Laird*, 451 F.2d 26, 33 (1st Cir. 1971); *Durand v. Hollins*, 8 F.Cas. 111, 112 (C.C.S.D.N.Y. 1860) (No. 4,186); and *United States v. Smith*, 27 F.Cas. 1192, 1230 (C.C.S.D.N.Y. 1806) (No. 16,342).

96. See "War Powers Resolution"; *Mitchell v. Laird*, 615; *United States v. Kroncke*, 459 F.2d 697, 702 (8th Cir. 1972); *Massachusetts v. Laird*, 33; and *Ali v. United States*, 289 F.Supp. 530 (C.D. Cal. 1968).

97. Hamilton.

98. See *Ex parte Milligan*, 71 U.S. (4 Wall.) 2, 139 (1866) (Chase, C.J., concurring); and *Atlee v. Laird*, 347 F.Supp. 689, 706 (E.D. Pa. 1972) (three-judge panel), aff'd without opinion, 411 U.S. 911 (1973).

99. For example, *Talbot v. Seeman (The Amelia)*, 4 U.S. (4 Dall.) 1, 28 (1801); *Berk v. Laird*, 317 F.Supp. 715, 721–723 (E.D.N.Y. 1970), aff'd sub nom. *Orlando v. Laird*, 443 F.2d 1039, 1042 (2d Cir. 1970), cert. denied, 404 U.S. 869 (1971).

100. U.S. Constitution, art. 4, sec. 4.

101. Ibid., art. 8, sec. 1.

102. Ibid., preamble; and *Jacobsen v. Massachusetts*, 197 U.S. 11, 22 (1905).

103. U.S. Constitution, art. 1, sec. 8, cl. 11; and *Baron v. Baltimore*, 32 U.S. (7 Pet.) 243, 249 (1833) (Marshall, C.J.).

104. See *Gibbons v. Livingston*, 6 N.J.L. (1 Halst.) 236, 255 (N.J. Sup.Ct. 1822).

105. See *Chacon v. 98 Bales of Cochineal*, 5 F.Cas. 390, 397 (C.C.D.Va. 1821) (No. 2,568) (Marshall, C.J.), aff'd sub nom. *The Santissima Trinidad*, 20 U.S. (7 Wheat.) 283 (1822); and *The Wilson v. United States*, 30 F.Cas. 239, 242 (C.C.D.Va. 1820) (Marshall, C.J.).

106. William Blackstone, *Commentaries on the Laws of England*, vol. 1 (1765; repr. Birmingham, Ala.: Legal Classics Library, 1983), p. 250.

107. See "Act to Protect the Commerce and Coasts, 28 May 1798"; 1 Stat. 578; "Act to Authorize the Defense of Merchant Vessels, 25 June 1798"; "Act Concerning French Citizens That Have Been or May Be Captured and Brought into the United States, 28 February 1799," ch. 18, 1 Stat. 624; and "Act for the Government of the Navy of the United States, 2 March 1799," sec. 6, ch. 24, 1 Stat. 709.

108. 10 U.S.C. § 351 (West 1997).

109. See U.S. Constitution, art. 1, sec, 8, cl. 11, 14.

110. Keynes, p. 37.

111. "Act to Protect the Commerce and Coasts, 28 May 1798," ch. 48, 1 Stat. 561, amended by "Act of 28 June 1798," ch. 62, 1 Stat. 574, amended by "Act of 9 July 1798," ch. 68, 1 Stat. 578; "Act to Authorize the Defense of Merchant Vessels, 25 June 1798"; and "Act for the Government of the Navy of the United States."

112. See *Little v. Barreme*, 6 U.S. (2 Cranch) 170, 177 (1804); and *Bas v. Tingy (The Eliza)*, 4 U.S. (4 Dall.) 37, 43 (1800).

113. U.S. Constitution, art. 1, sec. 8, cl. 12–3; *Massachusetts v. Laird*, 26, 32 (1st Cir. 1971); and *Orlando v. Laird*, 317 F.Supp. 1013, 1018 (E.D.N.Y. 1970), aff'd, 443 F.2d 1039, 1042 (2d Cir. 1970), cert. denied, 404 U.S. 869 (1971). See *United States v. O'Brien*, 391 U.S. 367 (1968); and *United States v. Cornell*, 36 F.Supp. 81, 84 (D. Idaho 1940).

114. See William C. Banks and Peter Raven-Hansen, *National Security Law and the Power of the Purse*, vol. 3 (New York: Oxford Univ. Press, 1994), pp. 11–7; Richard D. Rosen, "Funding 'Non-Traditional' Military Operations: The Alluring Myth of a Presidential Power of the Purse," *Military Law Review*, vol. 155, 1998, p. 1.

115. U.S. Constitution, art. 1, sec. 9, cl. 7.

116. Alexander Hamilton, "Federalist 78," in Rossiter, ed., p. 465.

117. See Bobbitt, p. 1389.

118. U.S. Constitution, art. 1, sec. 8, cl. 18.

119. For example, *United States v. O'Brien*, 391 U.S. 367, 377 (1968); *Lichter v. United States*, 334 U.S. 742 (1948); and *Woods v. Miller*, 333 U.S. 138 (1948).

120. 17 U.S. (4 Wheat.) 316, 420 (1819).

121. See Thomas M. Franco and Michael J. Glennon, *Foreign Relations and National Security Law*, 2d ed. (St. Paul, Minn.: West Publishing, 1993), p. 523.

122. See endnote 37. Harold H. Koh, *The National Security Constitution: Sharing Power after the Iran-Contra Affair* (New Haven, Conn.: Yale Univ. Press, 1990), p. 80; and Keynes, p. 91.

123. See 16 *Cong. Rec.* 701 (14 January 1885) (Rep. Burr W. Jones of Wisconsin); Elkins and McKitrick, p. 647; DeConde, *The Quasi-War*, pp. vii, 126; and Yoo, p. 167.

124. See S. Rep. 10, 41st Cong., 2d Sess., 1870, reprinted in 46 *Cong. Rec.* 366, 373–374 (1910); George A. King, "The French Spoliation Claims," *American Journal of International Law*, April 1912, p. 370; and Gerard, pp. 29, 39.

125. See *Juragua Iron Co. v. United States*, 212 U.S. 297 (1909); and *Pacific R.R. v. United States*, 120 U.S. 227, 234 (1887).

126. See "Act of 20 January 1885," ch. 25, 23 Stat. 283.

127. *Gray v. United States*, 21 Ct. Cl. 340 (1886).

128. *Clinch v. United States* (*The Schooner Endeavor*), 44 Ct. Cl. 242, 273 (1909).

129. See *Blagge v. Balch*, 162 U.S. 439, 457 (1896).

130. 16 *Cong. Rec.* 706 (14 January 1885) (Rep. James O. Broadhead of Missouri).

131. See *Abrahim-Youri v. United States*, 139 F.3d 1462, 1467 (Fed. Cir. 1997); and *Security Pacific National Bank v. Iran*, 513 F.Supp. 864, 882 (C.D. Cal. 1981). *Aris Gloves, Inc. v. United States*, 420 F.2d 1386, 1395-1396, 190 Ct.Cl. 267 (1970).

132. See *Gray v. United States*, 21 Ct. Cl. 340, 375 (1886); and *Hooper v. United States*, 22 Ct. Cl. 408, 429 (1887).

133. *Hooper v. United States*, 429.

134. See *Gray v. United States*, 374–375; King, pp. 374–6 (quoting the court and others).

135. See *Hamilton v. McClaughry*, 136 F. 445, 449 (C.C.D. Kan. 1905); *Navios Corp. v. The Ulysses II*, 161 F.Supp. 932, 938 (D.Md. 1958) (Thomsen, C.J.), aff'd *per curiam*, 260 F.2d 959 (4th Cir. 1958); and *United States v. Anderson*, 38 C.M.R. 386, 390, 17 USCMA 588, 592 (1968) (Kilday, J., concurring).

136. 86 *Cong. Rec.* 8913 (1940) (Sen. Prentiss Brown of Michigan).

137. "Convention between the French Republic and the United States (Môrtefontaine Convention), 30 September 1800," 8 Stat. 178. See "Final Ratification of the Convention between the French Republic and the United States, 19 December 1801," 8 Stat. 194; Elkins and McKitrick, pp. 662–90; and DeConde, *The Quasi-War*, pp. 223–58, 292–3, 311–25.

138. Yoo, p. 205; and U.S. Army Dept., DA Pam 27-161-2, vol. 2, p. 142.

139. Emmerich de Vattel, *The Laws of Nations, or, The Principles of Natural Law Applied to the Conduct and to the Affairs of Nations and of Sovereigns*, trans. Charles G. Fenwick, vol. 3 (London: 1758; repr. Washington, D.C.: Carnegie Institute, 1916), § 70; and Kent, pp. 55–6.

140. Vattel, §§ 55–6, 64, 70; Hugo Grotius, *On the Law of War and Peace*, trans. Francis W. Kelsey, vol. 2 (1636; repr. Indianapolis: Bobbs-Merrill, 1925), pp. 624–5.

141. See *Abridgement of the Debates of Congress* (New York: AMS Press, 1970), vol. 2, p. 298 (8 June 1798, Rep. William Claiborne of Tennessee).

142. See *Griswold v. Waddington*, 16 Johns. 436, 449 (N.Y. Ct. Err. 1819); Sofaer, *War, Foreign Affairs and Constitutional Power*, p. 56 n; and Charles A. Lofgren, "War-Making under the Constitution: The Original Understanding," *Yale Law Journal*, vol. 81, 1972, p. 693.

143. Alexander Hamilton, "Federalist 25," in Rossiter, ed., p. 165.

144. *Navios Corp. v. Compania Fletera Cajotamil S.A.*, 161 F.Supp. 932, 939 (D.Md. 1958).

145. Levy, ed., *Encyclopedia of the American Constitution*, vol. 3, pp. 1743, 2009.

146. Yoo, p. 177 n. 36.

147. See *Thomas v. Metropolitan Life Ins. Co.*, 388 Pa. 499, 507, 131 A.2d 600, 604 (1957); Dupuy and Dupuy, pp. 1354–67, 1415–6, 1477–83. The American incursions comprised the occupation of Veracruz (21 April–14 November 1914) and General John J. Pershing's "punitive expedition" to capture Francisco "Pancho" Villa (15 March 1916 through 5 February 1917).

148. Abraham D. Sofaer, "The Power over War," *University of Miami Law Review* , vol. 50, 1995, p. 43; Gerhard Casper, "Executive-Congressional Separation of Power during the Presidency of Thomas Jefferson," *Stanford Law Review*, vol. 47, 1995, pp. 480–2.

149. "Act for the Protection of the Commerce and Seamen of the United States against the Tripolitan Cruisers, 6 February 1802," ch. 4, 2 Stat. 129, 130; and *Berk v. Laird*, 317 F.Supp. 715, 722 (E.D.N.Y. 1970), aff'd *sub nom. Orlando v. Laird*, 443 F.2d 1039, cert. denied, 404 U.S. 869.

150. Sofaer, *War, Foreign Affairs and Constitutional Power*, p. 254.

151. "Letter from John Adams to Timothy Pickering (2 November 1798)," in Charles F. Adams, ed., vol. 8, p. 615.

152. DeConde, *The Quasi-War*, p. 457.

153. Ibid., p. 18; and "Speech of President John Adams to Congress (16 May 1797)," in Charles F. Adams, ed., vol. 9, p. 114.

154. DeConde, *The Quasi-War*, pp. 428–9, 456–7.

155. Elkins and McKitrick, pp. 537–8, 648–52; and Palmer, pp. 4–5.

156. Lowrie and Clarke, eds., vol. 2, pp. 29–30 (Secretary of State Timothy Pickering's report to Congress).

157. See "Jay's Treaty, 19 November 1794," art. 17–18; and Elkins and McKitrick, pp. 537–8.

158. King, p. 365.

159. See "Treaty of Amity and Commerce with France, 6 February 1778"; Elkins and McKitrick, p. 552; and Palmer, pp. 4–5.

160. *Cushing v. United States*, 22 Ct. Cl. 1, 3–4 (1886).

161. *McCobb v. United States*, 42 Ct. Cl. 134, 141 (1907); *Gray v. United States*, 21 Ct. Cl. 340, 400–404 (1886); and Elkins and McKitrick, p. 552.

162. Gerard, pp. 36–8.

163. Ibid., p. 38; and "John Adams's Message to the House of Representatives (15 February 1799)," in Charles F. Adams, ed., vol. 9, p. 161.

164. Lowrie and Clarke, eds., vol. 2, p. 151; and Brown, p. 60.

165. Sofaer, *War, Foreign Affairs and Constitutional Power*, pp. 139, 419 n. 50.

166. Louis Henkin et al., *International Law: Cases and Materials*, 3d ed. (St. Paul, Minn.: West Publishing, 1993), p. 871; and Winthrop, p. 798.

167. Elkins and McKitrick, pp. 582, 652.

168. *Cushing v. United States*, 1, 8.

169. DeConde, *The Quasi-War*, p. 499; and Gardner W. Allen, *Our Naval War with France* (Boston and New York: Houghton Mifflin, 1909), pp. 298–9.

170. Kent, p. 61.

171. "John Adams's Speech to Congress (8 December 1798)," in Charles F. Adams, ed., vol. 9, p. 130.

172. DeConde, *The Quasi-War*, p. 105; and Smelser, p. 189.

173. Vattel, § 57.

174. Lofgren, p. 690.

175. Alexander Hamilton, "Examination (No. 1) of Jefferson's Message to Congress of December 7, 1801" (17 December 1801), in *Works of Alexander Hamilton*, ed. John C. Hamilton, vol. 7 (New York: John F. Trow, 1851), pp. 746–7.

176. *United States v. Smith*.

177. See Palmer, pp. 30–1; and Smith, p. 979.

178. "Act to Authorize the Defense of Merchant Vessels, 25 June 1798"; "Act to Provide Armament for the Protection of Trade, 27 April 1798," amended; and "Act to Protect the Commerce and Coasts, 28 May 1798," amended.

179. See *Miller v. The Ship Resolution*, 2 U.S. (2 Dall.) 19, 20 (C.C.D. Pa. 1782); "New Rules and Institutions for the Peaceful Settlement of International Disputes," pp. 130, 139 n. 1; and Lofgren, p. 692.

180. See *Penhallow v. Doane*, 3 U.S. (3 Dall.) 54 (1795); and Clark, ed., vol. 2, pp. 1131–3.

181. *Kennedy v. Ricker*, 14 F.Cas. 318, 320 (D.C.N.H. 1801) (No. 7,705).

182. DeConde, *The Quasi-War*, pp. 147, 423 n. 12.

183. U.S. Articles of Confederation, art. 9.

184. "Opinion of Secretary of State Thomas Jefferson on 'The Little Sarah' (16 May 1793)," in Ford, ed., vol. 6, p. 259.

185. *Massachusetts v. Laird*, 26, 33.

186. "Act to Declare the Treaties with France No Longer Obligatory, 7 July 1798."

187. See *The Pedro*, 175 U.S. 354, 363 (1899); M. J. Peterson, "Recognition of Governments Should Not Be Abolished," *American Journal of International Law*, vol. 77, 1983, pp. 31, 44.

188. *Griswold v. Waddington*, 16 Johns. 438, 450 (N.Y. Ct.Err. 1819).

189. *Abridgement of the Debates of Congress*, 6 July 1798, vol. 2, p. 311.

190. "Act of 7 July 1798," ch. 67, 1 Stat. 561.

191. "Presidential Proclamation Revoking the Exequaturs of the French Consuls (13 July 1798)," in Charles F. Adams, ed., vol. 9, pp. 170–2; and "John Adams's Message to Congress (21 June 1798)," in ibid., p. 159.

192. "Act to Suspend the Commercial Intercourse between the United States and France, 13 June 1798," ch. 53, 1 Stat. 565, amended by "Act of 16 July 1798," 1 Stat. 611.

193. *Abridgement of the Debates of Congress*, 1 June 1798, vol. 2, p. 295.

194. "Act of 13 June 1798," § 5, ch. 53, 2 Stat. 566.

195. *Bas v. Tingy*, 37, 39.

196. DeConde, *The Quasi-War*, p. 235.

197. "John Adams's Reply to the House of Representatives (1798)," in Charles F. Adams, ed., vol. 9, p. 135.

198. "Letter from John Adams to John Marshall (September 4, 1800)," in ibid., p. 81.

199. *Official Opinions of the Attorney General, Advising the President and the Heads of Departments in Relation to Their Official Duties* (Washington, D.C.: R. Farnham, 1852), vol. 1, 21 August 1798, pp. 84–5. (Emphasis in original.)

200. *Bas v. Tingy*, 37.

201. "Act of 2 March 1799," § 6, ch. 24, 1 Stat. 709, 715.

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Ψ

Mastering Violence

An Option for Operational Military Strategy

Brigadier General Loup Francart, French Army,
and Jean-Jacques Patry

THE ENTRY OF THE WESTERN NATIONS into a new strategic era has been accompanied by a significant increase in the commitments of their armed forces. The Western states, including France, operate today within the framework of a de facto "counterwar" strategy, but no such strategy has ever been officially formulated or expressed; the employment of forces has to be adapted on a case-by-case basis. The aim of this unexpressed strategy is to contain violence—in conflicts that are different from interstate wars of the nineteenth and twentieth centuries, and from the wars of decolonization. Western forces are typically given international mandates that put them in the position of third parties between belligerents neither of whom they consider enemies. Consequently, the military courses of action associated with classical warfare are imperfectly adapted to the problems currently being encountered.

Nonetheless, employing force to contain violence may be a valid strategic option. The employment of appropriate force can protect against violence, control it, contain it, even dominate it. The issue is how much force to apply. The guidance implied by the official United Nations definitions of "peace operations" remains unsatisfactory. They characterize military operations in a legal sense, but they do not help decide what kinds of military actions are to be taken in a given case; a suitable strategy must be based upon a clear assessment of the different types of violence that can be met in the field. No true operating modality has yet been worked out.[1]

Certainly, military actions will not be directed against the "centers of gravity" of warring parties; that would risk a protracted

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confrontation. Military actions that contain violence but with minimal armed confrontation are preferred. The aim is to remove from the belligerents their physical and moral freedom of action, but without attacking the sources of their power.

The key to "mastering violence" is to control certain operational *domains*—for instance, "land-space," mass movement, and armaments, but also information and humanitarian operations. However, no UN-mandated intervention force can be equipped and trained exclusively for mastering violence; it may also have to conduct combat operations. That contingency will not be addressed in this article.

Natural Order or Disorder

The collapse of the USSR and its empire opened a new strategic era, one that is still difficult to understand. To begin with, the nature of conflict has changed over the last ten years, and its present forms require an adaptation of political and military instruments. Military operations are now completely integrated with political, diplomatic, economic, and cultural activities. Strategy is no longer simply a matter of defense. The problem is now, more than ever, to conceive military actions in a political framework.

From Communities to Society: Integrating Concepts. At the heart of the present international disorder lie *communities*, where identities and values—the fabric of society—are first expressed. A community can be defined as a social union marked by strong, shared, participatory feeling, from which self-representations and customs arise. *Society*—an imprecise concept—can be considered the "community of communities." It differs from the *state*, which is the political organization of communities.

Two major integrating concepts were predominant throughout most of the twentieth century: the nation-state and ideology.[2] They led to policies of power and expansion, and, in turn, conflicts over sovereignty and territory. These conflicts continue, overlaid on the fundamental search for values that has marked international society since the end of the colonial empires and later of the Soviet empire. Meanwhile, globalization has engendered yet further contradictions.

The concept of the nation-state, which has shaped the international system since the seventeenth century, has in this century

aimed to provide stability and security. At the same time, it has also been a major instrument of control over communities and individual behavior. The nation-state created a particular form of war, focusing on territories. At the same time, ideologies, sophisticated representations of the world, were creating "unique truths" and legitimizing even the most radical behavior, often opposed to the idea of nation-state. Ideological war is a total, mass conflict between two antagonistic models of society, with stakes much deeper than territorial disputes—the conquest of "hearts and minds."

Today, two new *concepts intégrateurs*—civilization and culture—compete with nation-state and ideology. The paradigm of the "clash of civilizations" has highlighted their roles. *Civilizations*, as defined by Samuel P. Huntington, are rooted in a metaphysical vision of the world and a spiritual experience that guides community life.[3] Huntington identifies eight civilizations existing today and predicts the emergence of conflicts along the "fault lines" between them. Such

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"civilizational" conflicts also erupt in collapsed states whose populations have been gathered from different civilizations or cultures; these civil wars tend to be extremely lethal. *Culture* comprises the common beliefs, behavior, language, and experience of a civilization. Culture may become an ideology, or be used as one. The notions of culture and ideology, in fact, are closer to each other than are the concepts of nation-state and civilization, which are based on different principles: territory, law, and sovereignty for the former, values and identity for the latter.

A recent phenomenon affecting all four of these integrating concepts is *globalization,* which is both a process and its result. It is first of all an economic and financial phenomenon; as such it gives rise to new actors in the international system, and also to a new dimension of conflict, since belligerents are often supported by transnational networks. Globalization can be seen as the advent of a "universal civilization," the worldwide expansion of a model of society. Conflict can result when communities resist globalization to preserve their respective identities or to prevent the demographic, economic, and social transformations associated with it. Relatedly, modernization of society also implies psychological changes. It is possible to modulate and channel modernization so as to reduce its obvious impact on tradition, but doing so can exacerbate differences between generations or cultures within a society.

The Evolution of Conflicts. With the end of the Soviet empire, the notion of total war lost its potency, at least for the time being. This was not the end of conflict, however. Two main types exist today.

The first is conflict over sovereignty—regional powers fighting to establish spheres of influence. It is symmetrical with regard to objectives, military means, and courses of action. Western countries cannot neglect these conflicts, because their strategic interests can be harmed by them; their armed forces need to remain prepared to fight in high-intensity conflict and to win as decisively and rapidly as possible, under political constraints and with media coverage. Western militaries will structure themselves for this task much as in the past—with emphasis on heavy forces capable of all combat functions, the most sophisticated weapon systems, and highly professional soldiers. Those forces can be smaller than they once were,

because they will most often fight in coalitions. Nations will tailor their forces to produce the political influence that they desire to exert.

The second type of conflict arises from political manifestations of society—tensions between communities belonging to different cultures or civilizations, with the decline of the traditional integrating concepts. These tensions can exist within single states that encompass several cultures.[4] When they do, the conflict that results is usually asymmetric, with the legal government using its military and police forces, and its opponents organized in networks. Violence takes different forms: abuse of force and repression on one side, terrorism and guerrilla warfare on the other. Identity conflict can, however, be symmetric, between belligerents having the same objectives, means, and ways of fighting; this is the case in many African wars.

Identity—that is, culture and civilization—and the other *concepts intégrateurs* need not be the only causes of a conflict. Just as conflict between nation-states may have an ideological dimension, "identity wars" can also turn into struggles for political power.[5] In fact, integrating-concept factors are often simply used by political leaders as instruments of their ambitions.[6] In particular, identity is likely to be an instrument rather than a source of conflict. The key consideration is legitimacy, the sense in communities and societies that a government has a moral right to rule. In a state governed by a legitimate authority, cultural differences are an asset; they become sources of trouble when the government becomes tyrannous or collapses.[7]

For instance, the nation-state remains at the heart of apparently identity-based conflicts in which either a nationality is not satisfied with its representation in the state or the form of government is contested. There are three possible cases. The first is a rebellion of a minority of the population against a legal government that the majority considers legitimate; no international intervention can be envisioned, unless requested by the government. In the second case, the legal government has lost its social legitimacy, usually because of its authoritarian nature; intervention in this kind of conflict is difficult, because the government is likely to impede an impartial settlement. Thirdly, conflict may result from the collapse of the state: in the resulting vacuum, the ideologies or cultural values of its constituents clash violently. Military intervention cannot restore peace; this can only result from agreement on a new "social contract" and acceptance of a new government.

Another complexity is the variety of ways in which aspects of globalization appear in various types of conflict. For example, transnational criminal organizations provide financial and logistical support to combatants. More commonly, the media and communication networks mobilize international audiences in support of a cause; public reaction becomes both a constraint on, and an impetus for, political decision making. Also, conflict resolution often is internalized, with military interventions now being authorized by international organizations rather than being conducted unilaterally. Even major powers that used to intervene unilaterally in their spheres of influence now appear to need the formal legitimacy provided by United Nations resolutions.

Thinking about War Differently. In the post–Cold War context, Western countries are peacemakers: they intervene to fight against war. In the past, major powers had assumed this role at the edges of their spheres of influence, but today the role is acknowledged by the international community and accepted by a large part of the public. Hence, Western nations now resort to force or the threat of force mainly to stop intrastate wars, to stop violence in order to pave the way for political settlements. They are finding that political end-states and military objectives are more difficult to define than they were.

This is a new approach for a military that is used to considering itself primarily an instrument of war and whose conception of war remains narrowly Clausewitzian. While the Clausewitzian view of war as a continuation of policy remains valid, both for belligerents and for international parties seeking to end a conflict, today's international will cannot be imposed by annihilation of the warring factions.

Theater Violence

Even in the bipolar context, there were units specialized for commitments outside Europe, and the "first world" experienced low-intensity conflicts. Over the last decade, however, the intrastate nature of conflict has entailed new forms of violence, which break out in various ways: impulsively, from aggressiveness or fear; or deliberately, the product of rational decisions. We may also distinguish direct violence, perpetrated by an individual or a group of identifiable

people, from the more diffuse collective violence, which stems from oppressive social practices.[8]

Types and Intensities of Violence. However, these distinctions do not provide simple reference points for armed forces whose mission is to master violence in a given theater of operations. Concretely, armed forces have to identify perpetrators of violence in order to protect themselves from aggression, defend populations from their exactions, and if necessary, neutralize armed groups.

Recent experience demonstrates that violence can assume six distinct forms, differing in their causes, motivational bases, and objectives. The six forms are *committed, insurrectionary, institutional,* and *psychotic* violence, Mafia-type or organized *crime,* and *civil disobedience.*[9] Within each category, acts can be classified by intensity. At the lowest level of intensity is *psychological* violence, exerted through threat, exclusion, and contempt; then comes *sporadic* violence, which represents an incipient transition toward a more continuous violence. The next most intense level, *targeted* violence, is directed against properties or people that are hostile symbols; *blind* violence, in contrast, strikes any kind of property or person, to create public terror and force authorities to negotiate. *Legitimated* violence is justified by a perceived acceptance by international, or at least national or local, opinion. Lastly, *generalized* violence overwhelms any attempted controls and bounds; it is characteristic of all-out war or civil war.

In actual operations, an international force assigned to deal with one category of violence will in fact be confronted by all the other kinds as well. Theater commanders can use this typology to recognize the main categories and to organize accordingly their efforts to master the violence and protect their units and populations.

Committed Violence. This widespread form of violence is used by groups as an instrument of coherent, goal-directed plans. It may be a reaction to discrimination or stem from an intent to destabilize an established order. It expresses a sense of precariousness and frustration, and it may go hand in hand with a search for power or wealth. The main perpetrators are political organizations (perhaps with religious or ethnic goals) that become clandestine and are thereafter constituted into militia, paramilitary groups, or guerrilla movements.

Terrorism is the favorite course of action of these groups; they use it to reduce the resistance of governments and to subdue

populations.[10] They may also resort to guerrilla warfare, with the various elements of the population providing logistical support, hostages, targets, and legitimacy.

Insurrectionary Violence. The roots of insurrectionary violence can be found in social and institutional disorders and in human deprivation and frustration. It is characterized by attacks by small groups or crowds upon material or human symbols of their discontent. Its motivations include the elimination of stress (a sense of release and pleasure), the survival instinct, and at times opportunities to steal. It encompasses strikes, provocations against the police, and "mobs in upheaval" (below). It may take more radical forms, ranging from vandalism to pillage, havoc and devastation, even urban guerrilla warfare. In a civil war, the parties try to provoke, use, or incorporate this form of violence for their own political agendas, and to integrate it in their strategies.

Institutional Violence. The two types of violence above may force the government of an authoritarian state to use institutional violence in reaction. Then begins the well known spiral of rebellion and repression. Repression may be exercised directly by the country's security forces or be "subcontracted" to paramilitary front organizations. This violence aims at preserving and exercising power. It may also express a dominating will, social assertion, or greed.

Institutional violence can be subtle, implemented through a legal framework or in the form of discriminatory practices. It may also take more extreme forms, including elimination of individuals or communities, or such acts of mass terror as genocide.

Mafia/Organized-Crime Violence. Violence of this kind, which serves private interests, emerges usually in weak political regimes, in which Mafia-like organizations can pursue illegal activities with total impunity. Corruption and disorganization in the governance and passivity and fear among the population are its prerequisites. Its main perpetrators today are warlords, pirates, and sects in Asia and Africa; cartels in South America; and urban gangs in a number of Western countries. These organizations adapt with a rapidity that state institutions cannot match. Their primary objectives are monetary, but they can also have other agendas, such as opposition to a government considered hostile (as asserted by some American paramilitary groups), challenges to society generally, or rejection of the Western way of life.

The violent tools of organized crime include intimidation, corruption, blackmail, gang-style killing, and theft, as well as piracy, kidnap for ransom, and attacks on police. In its most intense form, this kind of violence can lead to urban guerrilla warfare, mass seizures of hostages, and terrorism. Mafia-style violence can be institutionalized in territories from which public authority has been excluded.[11]

How can we distinguish the actions of our armed forces, mandated by the international community and respecting the law of war, from the violent activity of the belligerents?

Psychotic Violence. Psychotic violence particularly involves people already destabilized by other forms of violence. It develops mainly in civil war environments, in which individuals—especially teenagers—are likely to become addicted to violence.[12] Determined and courageous, yet fragile and vulnerable, and animated by the turbulence of adolescence, they are often victims themselves, their proper places in society having been destroyed. Accumulated reservoirs of hatred turn them into highly aggressive human beings. They easily get out of hand, even out of the control of their nominal leaders, and slip into unrestrained violence.[13]

Psychological mechanisms are the true sources of psychotic violence. Isolation and psychological fragility make people and groups especially susceptible to oratory and to ideological and religious manipulation. The world-vision of an individual destabilized by chaos is likely to be simplistic and totalitarian, readily convertible to deep hatred for all those who do not share it.

Civil Disobedience. Though it rejects physical violence and attempts to convince an adversary (generally one who is using institutional violence) that solutions must be political, civil disobedience is a powerful instrument of pressure.[14] It aims to mobilize moral force and to maximize the effect of mass and cohesion. Protests, boycotts, and sanctions, scrupulously implemented by thousands or even millions of people, can bring a government, or its coercive resources, to collapse; they cannot be entirely countered by military action.

Nevertheless, the most frequent use of civil disobedience—or at least of the appearance of it—is tactical, in support of some violent course of action, especially in urban areas under intense media coverage. For instance, a "peaceful demonstration" of women and

children may be set up to hinder troop movements or to cover sudden excursions by armed groups.

Armed factions typically practice several types of violence simultaneously, with varying degrees of intensity. For example, in the former Yugoslavia, the "nationalist armed forces" used committed violence in opposition to the central government, in conjunction with institutional violence against the populations they controlled. Internationally mandated forces may also be confronted by several types of violence perpetrated by different actors, perhaps the committed violence of fighting groups and the institutional violence of paramilitaries. As another example, the insurrectionary violence in Albania that followed the bankruptcy of the banking system was paralleled by organized-crime violence perpetrated by clans and small, Mafia-like groups. The most dangerous violence for a mandated force, however, is the institutional type from a host government. The position of the mandated force must be clearly defined, and a line—as clear as possible—must be drawn between the use of legitimate state force and the practice of violence.

This diversity of violence clearly points to the need for a new approach to the notion of "the enemy." In peace-support operations there is usually no designated adversary. The international force has to act alternately in *inter*position and in *op*position. It must control the violence of certain elements, protect itself against others, and simultaneously impose the terms of the international mandate. To do that effectively, the theater commander requires multifaceted and seamless intelligence support.

International Efforts to Eradicate Violence

The current literature on localized conflict addresses only partially the need for doctrine on the use of armed forces to master violence in a theater of operations. To date, the international community has attempted to cope with violence by four different and competing approaches.

The State Interests Approach. This concept is the legacy of the Realist vision of international relations elaborated by Hans Morgenthau, Reinhold Niebuhr, and Kenneth Waltz in the United States, and by

Raymond Aron in France. In this view, violence is in itself a threat to national interests and security, conceived in a broad sense, not only military. This notion gives particular weight to conflict in regions of strategic interest; for instance, the United States would not tolerate risks of war in areas that are essential to economic relationships and prosperity. Its national security and military strategies stress preventive operations, which to some extent can be seen as controlling regional violence.[15]

The French government has defined, in its 1994 defense white paper, not only *intérêts vitaux* (vital interests) and *intérêts stratégiques* but *intérêts de puissance* (interests of power) in promoting peace, international law, and democracy.[16] However, the notion of state interest remains imprecise. Even if each state endeavors to give its neighbors and the international community a more or less coherent vision of its interests, such definitions must necessarily be basic, without concrete modalities for combating violence.

The Juridical Approach. The Hague and Geneva Conventions, which were instrumental in creating the law of war, were the first international attempts to limit violence on a cooperative basis. During the nineteenth century and at the beginning of the twentieth, it was out of the question to seek to stop, on legal grounds, a sovereign state from waging war. But in time a new, shared morality condemned sufferings unnecessarily inflicted on combatants, prisoners, and populations. Since then the law of war has been augmented, even if its application has been imperfect.

After the Second World War, the great powers agreed to set up permanent military forces to discourage aggression. The United Nations Charter established as a norm the peaceful settlement of conflict and, if necessary, the restoration of peace by international force. Chapter VI favors preventive diplomacy and does not clearly envision the commitment of armed forces. Chapter VII, however, details the coercive measures available in case of threat or breach of peace.

The Secretary-General's *Agenda for Peace,* originally published in 1992 as an attempt to address the instability of the new strategic context, distinguished preventive diplomacy (aimed at settling conflicts before violence breaks out) from peacemaking and peacekeeping (to resolve conflicts and end hostilities). Under the *Agenda,* peacekeeping and peacemaking, having succeeded, give way to peace

building, designed to prevent the resurgence of violence.[17] The 1994 supplement to the *Agenda for Peace* adds to this schema "enforcement actions" in case of a threat to peace, a breach of peace, or acts of aggression. In such a case, the organization would expect to give an enforcement mandate to a group of states.[18]

The international juridical approach represents a significant step forward, but its main purpose remains the protection of states against violence stemming from interstate wars.

The Humanitarian Approach. Based as it is on state-sovereignty and noninterference principles, the juridical approach is powerless to limit violent actions resulting from civil wars or conflicts within a state, which today represent the most frequent cases. Over the last thirty years, however, the international conscience in this regard has evolved, and violence against populations in the defense of interests or ideology has become odious. Many nongovernmental organizations have promoted this view, with the support of the media.

Under such pressure, the UN recognized in 1988 the existence of fundamental humanitarian rights, among them access by international assistance organizations to endangered populations. This right has been made concrete by proposals for humanitarian-assistance "corridors" that no state may impede. This was the birth of the right of "humanitarian interference."

As this approach is less deferential toward state sovereignty than is the juridical one, it is often debated within the international community. Many third-world states oppose it, seeing in it a tool of domination by Western countries.

The Military Approach. Following the U.S. example, Western armed forces have little by little integrated UN missions in their own doctrines. They generally distinguish operations in support of diplomacy—peacemaking, peace building, and preventive diplomacy—from the peace-support operations, which for them include peacekeeping and peace enforcement. The peacekeeping concept does not allow the actual use of force, except in self-defense, whereas peace-enforcement operations can resort to force to execute a mandate.

France, however, distinguishes three main categories of interventions under the UN mandate: intervention to maintain peace, with the agreement of the various parties, when hostilities have ceased;

intervention to restore peace, in a country where external or civil war threatens the security of populations and no aggressor has been clearly identified; and intervention to impose peace, through coercive action against a clear adversary. In the last two cases, a party may agree to the mandate only in part or refuse it entirely. Force may be used only to fulfill the mandate, not to eradicate belligerents or adversaries.

Prospects for a Common Approach

A real strategy of "counterviolence," encompassing the political, diplomatic, economic, and military dimensions of intrastate conflict resolution, needs to be developed. An operating mode especially designed to "master violence" would take into account the complexities and the political constraints governing military intervention in intrastate conflict, and guide theater commanders in managing them.

The Clash of Legitimacy. Legitimacy is a central issue in, and a major source of, conflict. Each belligerent claims legitimacy and denies his adversary's. Their respective claims are rooted in self-referential logic (law, religion, support of the population, history, etc.) and in values beyond power and interests, and so cannot be easily arbitrated. A force mandated to intervene in the conflict has to be seen as legitimate as well.

In war-torn countries, conflict is the expression of rejection of the political form of government, or of a nation itself. In the former case, the rejected government is confronted with "committed" or "insurrectionary" violence practiced by a separatist minority, or even by a dissatisfied majority; having lost a significant degree of social legitimacy, the state counters with "institutional" violence. The latter case—rejection of the nation as it exists—produces chaos. The government has neither legitimacy nor authority. The country is torn apart by communities fighting others, each in the name of identity.

In an intervention, the political objectives and the options chosen to reach them must be legitimate in the eyes of both the international and local publics, and that legitimacy must be built case by case. The foundation of legitimacy is the international mandate; three major issues have to be taken into account in crafting it. First, the political goals must be supported by the major powers in the UN

Security Council, each of which will have its own agenda. Precision, therefore, cannot be expected; a compromise must be sought at the level of basic objectives—preventing regional or local instability, restoring stability, or creating a new balance of power. Second, compromise must also be reached between the competing principles of state sovereignty and territorial integrity, on one hand, and human rights and self-determination on the other. Third, the strategic option selected—specifically, the role assigned the military in nonmilitary matters (diplomacy, economic measures, humanitarian assistance, etc.)—will influence whether the mission becomes in practice one of military coercion or the mastering of violence.

The international community, if it undertakes to master violence, indicates that it has not designated an "enemy and does not favor one claim over another. That, however, complicates the role of the theater commander. He must be given a comprehensive and detailed grasp of not just the military but the political dimensions of the conflict; only then can he assess for political authorities the claims of each armed faction. Those with internationally or nationally recognized legitimacy would be invited to take part in conflict settlement; the violent strategies of the others would be opposed militarily. The theater commander must also implement the political agreements, by force if necessary. He has a major role, therefore, in the reconciliation of the belligerents.

Mastering Violence. Mastering violence is, then, a political choice. Political authorities have to define the goals of the operation as well as the military means engaged. This may lead to three kinds of intervention: an operation in support of a diplomatic or economic settlement; an operation to master (prevent or control) violence; or an operation to compel an adversary to give up his military ambitions. Mastering violence is especially appropriate in terms of international stability, since it can revert to coercion if necessary.

A Western military force fighting politically against violence will face demands beyond those for which it has trained. It may have to play any of several main roles, depending upon the political objectives and nonmilitary measures decided upon: protection of the population, of their political representatives, and of public and private property; control of violence in the theater of operation, in order to facilitate a political settlement; and the domination of perpetrators

of violence, in order to create favorable conditions for conflict resolution. In each respect, military measures will be diverse, both physically and psychologically. They are part of the overall attempt to influence the belligerents. At the strategic level, the objective is to give meaning to the mission; at the operational level, it is to win support for the international mandate; and at the tactical level, the goal is to create a favorable perception of the force. In physical terms, military action should aim at reducing the violence of perpetrators and restricting their freedom of action.

Mastering violence is the final result of coordinated efforts in five operational domains: control of the environment, to constrain the factions' freedom of action; control of mass movements, to prevent their political use by the perpetrators of violence; control of armaments, to balance, reduce, or suppress their combat power; control of information, to remain continually aware of the situation, anticipate violence campaigns, and support friendly forces; and finally, if necessary, control of forces through actions designed to intimidate, warn, or inhibit recalcitrant elements (but not to strike at their centers of gravity).

Operations under an International Mandate. Of the different classifications of international operations that have been described, the UN taxonomy is most often adopted in Western military doctrines. However, the notions of "peacekeeping" and "peace enforcement" do not address fully the practical conditions for the use of force. It would seem more appropriate to examine possible operations with regard to their political and military objectives:

- Operations in support of diplomacy, including preventive diplomacy, peacemaking, and peace building
- Peacekeeping operations, as defined by the UN, undertaken with the consent of the parties to facilitate the achievement of a political agreement
- Operations to restore peace, under the rubric of peace enforcement and Chapter VII of the UN Charter
- Security intervention, including humanitarian assistance, noncombatant evacuation, and shows of force

- Operations—"limited wars," in the American parlance—to oppose the actions of an aggressor identified by the international community.

Rules of engagement can guide operations at each level. At the strategic level, these rules define the conditions of military action. They deal with legitimacy, the consent of the parties in conflict, or the designation of adversaries. At the operational level, they address the impartiality of the mandate force, its credibility (in terms of political will and military capabilities), and the transparency of its activities. At the tactical level, they become the authority for military decisions, dealing mainly with security, self-defense, or the reversibility of military dispositions. Each of these principles would be applied in ways appropriate to the given operation.

The Employment of Force against Violence

The mastering of violence requires an answer to a fundamental question: How can we distinguish the actions of our armed forces, mandated by the international community and respecting the law of war, from the violent activity of the belligerents? This distinction is essential, especially since government forces and armed factions with legal standing frequently take advantage of their status to abuse populations. Intervention forces cannot be associated with such behavior. The strategic option of mastering violence presupposes this distinction between force and violence, but it remains difficult to establish. The very concepts of "force" and "violence" lack clear and universal definitions; the boundary between them fluctuates and must be continually reassessed—it is, in the end, a matter of conscience. Nevertheless, the line may be illuminated by how the terms are defined by other disciplines.

For instance, semantics sees *excess* as a difference between them. Force is a capacity for physical action, evaluated with regard to the effects produced. It also has a moral dimension. In contrast, for a semanticist violence has two meanings: "abuse of force" and "illegitimate constraint"; it corresponds to the Greek notion of immoderation. In terms of mechanics, force is anything that modifies the state of rest or movement of a body. A force is defined by its point of application, its direction, and its intensity (conceived as

energy delivered instantaneously). To an engineer, force is interesting only as leading to a final state different from the initial one; this end state must be defined in advance. To extend the metaphor to intervention forces, an excess of force—that is, violence—can occur with respect to the desired end state (that is, the legitimacy of the strategic aim), points of application other than armed forces (populations, etc.), direction (actions modifying the point of application), and intensity (the power used to achieve the desired modification).

In the post–Cold War context, Western countries are peacemakers: they intervene to fight against war.

A final definitional framework is that of the law. In fact, international law sets forth the fundamental characterization of unacceptable violence. For states, international law prohibits aggressive warfare but authorizes self-defense. On the operational level, the law of war (or of armed conflict) applies. In broad terms, it holds that any action inflicting unnecessary suffering on combatants or populations is an abuse of force. Also, violence against individuals can constitute a war crime, whereas a crime against humanity involves violence against populations.

In practice, then, the use of force can be distinguished from collective violence according to the type of entity implementing it (whether it is charged with law enforcement), the legitimacy of the civil power resorting to force, and the respect it shows the law (that is, the law of war and civil law).

The legitimacy of force, bitterly disputed in the past, remains today a burning subject. While political Realists consider force the basis of law, humanists see it as only an instrument of natural law, which is a higher law based on the respect for human dignity. Another debate concerns the legitimacy of violence. In the eyes of the Hegelian school, violence is legitimate, because it contributes to the historical evolution of human societies; a number of evolutionists take it as a central element of the process of life. Violence is also defended by some political theorists when it is employed against oppression. That view leads eventually to "romantic terrorism," in which even the most barbaric acts are considered legitimate, since they reflect the inequality of the opponents. In a revolutionary or secessionist war, at least some sectors of public opinion consider even

extreme violence acceptable—just as, conversely, an action taken by duly constituted police may be illegitimate in the eyes of the population.

How can theater commanders deal with this difficulty? First, they must ban any reaction by their own units out of vengeance, because this might lead to institutional violence. Second, they must be quick to note if the military of the host country slips into institutional violence, and if it does, to dissociate their own forces from it.

It is possible, then, to distinguish the use of force from the indulgence of violence. Armed force should be employed only in a legal, institutional, and ethical framework. The absence of any one of those elements suggests the likelihood of violence that weakens political legitimacy. A legal framework is imposed on mandate forces by national and international law, set forth in rules of engagement; it strengthens the institutional (though not necessarily the political) legitimacy of the military action.

Ethical constraints require respect for human rights and compliance with the prohibition of crimes against humanity (as defined in United Nations Resolution 177 of 1947). To conduct a mission in accordance with the terms of the mandate and its political aims, the theater commander must at all times control the use of force—to withhold it, or to apply it with discrimination, limiting undesired effects. His ability to do so requires of each of his subordinates faultless personal behavior, knowledge of the rules of engagement, and obedience to the prerequisites established for opening fire. Therefore, rules of engagement should address three aspects: the employment of force, including instructions at the political-strategic level; the behavior of populations, belligerents, perpetrators of violence, and allies; and the use of specific armaments, especially rules defining when, and against which targets, they may be used.

Thus, even without a strict conceptual boundary, the notions of force and violence help military leaders to develop an accurate conception of operations at the operational and tactical levels. They also remind each soldier that, while obliged to obey lawful orders, he is responsible for the morality of his actions, not merely for their operational effectiveness.

Exercising Control in Every Dimension

The strategic mastering of violence requires detailed surveillance of the theater of operations, in its various dimensions, so as to permit *environment control*, by which the operational commander restricts the freedom of action of perpetrators of violence.

In combat, the physical environment (topography and terrain) is the framework of maneuver, and its features are essential stakes. In operations for mastering violence, the framework and stakes are the *human* environment. This environment has many dimensions, and military activity must take them into account; coordinated military actions in all these dimensions will contribute to limiting the escalation of violence. Direct combat actions against the belligerents are only a part of larger, multidimensional "maneuvering."

Environments. The air and sea dimensions, nearly homogeneous, constitute combat space in symmetrical conflicts. They also represent transit space, giving access to the ground theater, in "mastering violence" operations. From an operational point of view, these dimensions must also be monitored and controlled with special intensity, in order that the ground dimension of a theater may be restricted or even denied to belligerents. Littoral space is of special significance in projection or transit operations, where monitoring or denial measures enforce embargoes or blockades.

The electromagnetic dimension is equally homogeneous, but it is conditioned by the propagation of waves in space. Its use depends on adopted frequencies and transmission modes, as well as the propagation environment. Denying its use to an enemy is complicated today by the fact that civilian systems, such as cellular phones and personal computers, are available to belligerents. To control them requires costly networks of space-based and ground sensors.

The land is a more complex environment. Recent work in French schools of geography have highlighted the crucial significance of human and economic dimensions, in addition to the physical environment.[19] The human dimension provides a conceptual framework for analyzing identities, cultures, and territorial disputes, whereas the economic dimension identifies and traces the vital flows (of trade, finance, transportation) in regions and communities.

In fact, examining the human dimension is a prerequisite for understanding how a population conceives its own territory. Several concepts, in the French view, figure in this representation: the *espace vécu* (a geographical area where communities are and people live), *espace politique* (public and political organizations of states, provinces, counties), and *espace de représentation* (the historical aspirations of a community in terms of land space).

Communities are frequently dissatisfied with their physical or political territories. Such grievances are psychological matters. Indeed, the values and symbols a community attaches to a territory can explain its struggle for it; they suggest how much sacrifice—or the most barbaric violence—a community's members will accept on that account, and also the likely "hot spots," key geographical positions or symbolic places.

Organization of Land Space. The operational commander can reach the necessary understanding of the various dimensions of his theater, his region, through an analytical approach that stems from elementary geometry but is applicable to any environment.

This analysis begins with the concept of *point*, which cannot be defined but is essential to any geometric proposition. A *line* joins at least two points and constitutes a physical reality; on that line, material or immaterial *flows* may circulate between the points. We may associate these points, lines, and flows with the concept of *actors*, that is, human agents. A set of points, lines, and flows creates a *network*, a visualization that makes possible a better understanding of the environment.

Any network is part of one or more *zones*. Set theory suggests the notion of a zone as comprising a set of elements, subdivided into subsets. Zones and networks, superimposed, constitute a *human territory*, itself composed of sets and subsets. At the end of the process is the *region*, the frame of reference in the operational thinking of the theater commander. At this level, a region's key points (material or symbolic) and flows (that will have to be controlled) can be clearly identified.

Networks, however, constitute the real grid of a territory. They underlie the relations between points and lines in each dimension, as well as the interventions of human actors who use or create them. It

is always necessary for a military force operating on the ground to identify these networks and to define their relations.

Physical networks are easy to identify. They are significant influences upon military actions, especially in terms of mobility, countermobility, and the monitoring or controlling of key points. They mainly involve natural communication networks, resulting from geography.

Economic networks, at least their tangible aspects, are also easy to identify. These networks involve people and circulating goods. They can be controlled at communication points (such as airports, railway stations, or bridges) or at production and control points (power stations, water sources, etc.); still, the security of lines of flow is difficult to guarantee. Information networks, in contrast, can be located by their material assets (television, radio, computer, databases, etc.) but are much more difficult to delineate in their capacity as influence networks; the same can be said of financial networks, whether institutional or informal.

Human networks are even less easy to identify, because they are unsettled and changing. A group is never a collection of independent pawns but a network organized by material infrastructures and composed of social elements. Some links are temporary and disappear quickly, whereas others are institutionalized in organizations, parties, churches, associations, etc. Therefore, the political problems of communities are strongly influenced by the geographical constraints. To plan military activity in terms of networks means to reason in terms of interactions and human networks; some must be controlled or monitored, whereas other networks (such as those providing logistics, weapons, or money) must be dissolved. Anchored in populations and linked with the existence of a territory as an *espace vécu*, these networks constitute a key to the successful execution of the mission.

Each "mastering violence" operation is a specific case. Actions by Western forces at tactical and operational levels are thus highly variable. But dominance over the environment, particularly on the ground, remains a constant. It is a way to prevent violent acts when direct combat and neutralization of perpetrators of violence are impossible or undesirable. This domination can take various forms, depending on the type and intensity of violence exercised by belligerents, how the force uses ground space, and its mission.

At the tactical level, environment dominance is exercised over a coherent region, at different levels of intensity. The first is *security*, the freedom of action of forces intervening to settle a conflict. This is feasible only in relatively stable zones, in which parties have ceased hostilities. It is suited to negotiated postconflict commitments, by which parties implement a return to peace with external support, or

> *. . . [E]mploying force to contain violence may be a valid strategic option. The employment of appropriate force can protect against violence, control it, contain it, even dominate it. The issue is how much force to apply.*

to interventions designed to prevent the expansion of violence to other areas. *Control* marks a second step. It is applied to limit the freedom of action of parties within a defined area, particularly to prevent any resort to violence. This degree of supervision requires the approval—at least at the outset—of the parties. It also implies verification, as well as units earmarked for intervention.

Lastly, *exclusion* aims at denying access and use of a zone to belligerents. It requires not only control of the networks in the zone but even the eradication of some, and the ability to operate in any part of the area at any time. It involves measures for at least minimal protection, verification, and denial of lines or points of passage, and also forcible responses if unauthorized presence is detected.

At the operational level, supervision of the environment is a matter of the geographical positions of factions. The military role will consist of suggesting, negotiating, or imposing positions that contribute to the settlement of the conflict. The geographical arrangement will, if possible, satisfy the *espace vécu* or *espace de représentation* of each party. Several options may be applied at this level. One, *sécurisation*, aims to assure civil peace in the theater by preventing acts of violence. It requires local political consent and an agreement between the parties. Control is the responsibility of tactical units settling local disputes. In a country where civil peace is threatened, this option may be preventive, to stop the escalation of various types of violence. It is also the best way to restore peace in a postconflict situation. It facilitates the restoration of normal public and private activities. A second option, *interposition*, places a third force between

opponents in order to prevent armed confrontation. This option is always implemented in conjunction with diplomatic actions, because it requires, at the beginning, the agreement of the parties. It may also be used in crisis prevention, to avoid the occurrence of hostilities (preventive deployment); in humanitarian projects, to establish security conditions; in peacekeeping, to avoid the resumption of combat; and in the restoration of peace, to ensure compliance with a territorial agreement. Interposition is implemented through fairly elaborate tactical dispositions (zones of control, no-man's lands, zones of defense, etc.), all in the framework of a coherent operational disposition adapted to the strength of the factions present.

A third operational option is *confining*, that is, isolating a belligerent within his territory. It has been practiced, for example, in Latin America to counter guerrilla movements. This operational option has the advantage of settling, or at least reducing considerably, the problem of violence. It may be negotiated, installed tacitly, or even imposed (but without striking the faction's operational centers of gravity). *Grouping* armed factions in imposed areas may contribute to the political settlement of a conflict; it generally goes with disarmament operations. However, it demands the agreement of the concerned parties, not only the political leaders but also local warlords. Finally, *area denial* is designed to prevent intrusion by new belligerents into the theater of operations from another territory. Area denial may be employed to defend an overseas territory, such as a country benefiting from a defense agreement with a Western nation. The UN may also have established a mandate to prevent intrusions onto the territory of the host nation.

Control of Mass Movements

Human masses can deliberately act as "vectors" of violence, but mostly they are manipulated for that purpose by political leaders (strategists) and directed on the scene by agitators (tacticians). As was seen in Somalia, Bosnia, and Rwanda, military interventions often encounter civil disorder, whether consciously organized or totally out of control. The theater commander is confronted with a dilemma between protecting populations from themselves or protecting his own troops from populations.

It is necessary to be acquainted with the behaviors of human masses—that is, mobs—that are encountered in theaters of operations. This knowledge is essential even to collecting intelligence and conducting preventive operations; it should contribute to the control of mobs, at least at the tactical level. There are *fleeing mobs,* flows of refugees or demobilized soldiers; *refusal mobs,* displaying clear collective resistance to the government; extremely brutal *aroused mobs,* which appear and disappear suddenly; and finally, *mobs in upheaval,* large movements attempting to overthrow the established power.[20] In a civil war context, the intervening force will often be confronted by all these types of mobs. Ambitious community or political leaders use every possible manipulation to coalesce human groups into "mobs in upheaval."

Control of Mass Movements at the Tactical Level. The international military force may not be expected to control uprisings, but it may be involved in restoring public order in a riot context. Its actions will then be at the tactical level; units will have to find appropriate solutions, without simply improvising. Tactical intelligence in this situation can be effective only when supported by operational intelligence, giving precise knowledge of the area, the availability of local police forces, and the types of mobs and their leaders.

In any case, preventing a mass movement is better than having to control it. Preventive measures are designed to forestall large-scale gatherings. They are normally the responsibility of the local police, but there may be no police, or they may be ineffective, forcing the intervening military units to take action themselves. With a "refusal mob," the aim will be to limit the number of demonstrators, block gathering places, or to make a planned demonstration less likely to turn into a riot—by working with its organizers, examining the terrain, and setting up dispositions to stop riotous assemblies. It will be difficult to stop people fleeing as the result of deliberate acts of a faction; it should be possible at least to forecast such movements.

When it is necessary to control a mob, the objective is to accompany it and avoid a riot through negotiations and shows of force. Controlling "refusal mobs" is a particular problem for which riot police are trained; such techniques are not familiar to the military. Control of an actual riot is even trickier; it entails separating leaders from the crowd. Usually, however, the objective is not to control the total

momentum of the mob but to limit its destructive effects through dividing it, scattering it, or diverting its collective aggression toward substitute targets.

"Fleeing mobs" can be controlled by simply escorting them and avoiding or removing obstacles that would create panic. It is impossible, however, to control "upheaval mobs" without using force, which often has devastating effects; the intervening force can only redeploy itself to assure its own security and avoid being trapped by large mass movements whose very raison d'être is the violent destruction of civil authority.

Preservation of Public Order at the Operational Level. The theater commander has to coordinate tactical control of mobs and protection of property in order to avoid a deterioration of the situation. To do that, he requires operational-level intelligence—a broad perception of the area and an understanding of the "games" being played by the different actors—in order to anticipate their intentions and actions. At this level, intelligence is mainly collected on political leaders, their strategies, and their current tactics.

Operational-level preventive measures focus on the environment and local leaders. With respect to the former, the goal is to reduce specific shortages and in general the precariousness of the population's existence, in order to alleviate the discontent that might predispose people to manipulation. Pressure on leaders may deter them from resorting to violence, at least while the intervening troops are in the theater.

All such measures are time consuming. In an emergency, two types of action are possible: deescalation, by talking and mediating with the local leaders; and intimidation, through the threat of military retaliation, of leaders who would try to generate mob action. If the tactical situation gets out of hand, the force commander must take at once all necessary measures required to ensure adequate force protection, and then wait for a new mandate—which should reflect modifications confining operations at the operational level. That is necessary to avoid the crystallization of a "mob of upheaval," which could trigger civil war. If the international community is not prepared to take that step, the force should withdraw.

Armament Control

Arms control and disarmament often contribute strongly to the general settlement of a conflict, but in many cases attempts to implement them fail for lack of confidence between the warring parties. The mandate force plays a major role here.[21] The control of weapons is not an end in itself but part of a comprehensive process that includes humanitarian, diplomatic, and economic actions leading to the restoration of peace. It permits the reconstitution of local politics, rebuilds a certain degree of stability, and reduces violence.

There are various degrees of arms control, which can be combined and modified by local agreement. Weapons can be *limited* in terms of areas (prohibited zones), categories of weapons (such as a prohibition of heavy weapons), or use. *Weapons control* designates the transfer of weapons from armed factions to mandate forces. *Weapons reduction,* in contrast, defines quotas for some or all weapons in the theater; it implies an ability to verify and destroy surpluses. *Disarmament* deprives parties of military capabilities; their weapons are collected and stored by the mandate force.

Demobilization, in contrast, is a comprehensive process combining disarmament, dissolution of units, and the return of combatants to civilian life. This entails an organization that is well coordinated with the political power, the bureaucracy, and the economy, in order to avoid simply transforming combatants into unemployed workers. That would merely impel them to criminality, banditry, or to hiring themselves out as mercenaries.

The Psychological Dimension of Disarmament. The notion of controlling weapons is both new and old. Once demilitarization was the predictable consequence of military defeat; it marked the submission of the losing population. The late twentieth century, however, introduced the idea that consensual limitation of weapons or even disarmament could constitute a significant aspect of conflict prevention.

In negotiating and implementing arms control agreements in the theater, one must take into account the psychological motivations (aside from political objectives) behind the desire to possess and use weapons. On the level of the individual, the difficulty in disarmament or weapons limitation lies in the mythic image of the warrior. To many, carrying weapons is a privilege of the warrior caste; with it

goes charisma, personal image, and feelings of superiority. In addition to such affective aspects of possessing a weapon, there are hidden mechanisms involving the idealization of war aims. Leaders attempt to transform warlike impulses into an inspiration, a higher cause. Each combatant is invited to consider himself an instrument of the Almighty, chosen to improve the lot of the society to which he has devoted himself. In this way the warrior is called to create history, to change the course of events, to become a hero.

Lastly, war can be made to seem an adventure. It is exciting, certainly in comparison to the squalor of daily life and the harsh reality of work. It is perceived as a dangerous sport, but one that gives expression to vitality. It is all the more appealing in that it gives people the impression that they will be no longer accountable for their actions. The warrior, they tell themselves, does not ask questions: he obeys. He is carried along by a vast machinery, which decides what his future will be.

There is also a collective psychological dimension. In conflicts, weapons are sources of individual and collective benefits. Many armed groups survive by robbery or exploitation of populations, which have to pay a "tax for the revolution." Members of paramilitary militia look for other forms of profit—honors. War is a rapid way to rise socially in a society, to get power, glory, or privileges—in other words, to "make it." To accept disarmament, then, can mean abandoning a lucrative arrangement. Especially for warlords, it also means loss of standing. They lose their power and must submit to a system with different rules.

Lastly, in most cases, disarmament is not unilateral but bilateral or trilateral. In consequence, strategists and tacticians of each party endeavor to conserve all they can of their combat power, each fearing the others will cheat or renege.

Consensual or Coercive Processes. Thus, even in a consensual situation, when parties agree, the agreement needs to be strengthened enough not to vanish with time.[22] The mandated force must intervene to support political and diplomatic efforts, notably in the preparatory and negotiating phases. It does so by achieving mutual military transparency between parties, eventually through economic pressure and embargoes decided on by the international community. Once the agreement is achieved, the force implements confidence-

building and security measures, especially for wholesale demobilizations. These measures must be accompanied by additional economic or political arrangements to prevent the erosion of consent.

Weapons control can also take a coercive form. The aim here is to force local warlords to adhere to agreements signed by political leaders. Among the first effects of weapons control is the limitation of freedom of action, by confining parties to zones where they will be disarmed.

Weapons control is a difficult task. The conclusion of agreements at the politico-strategic level is only one step; implementation at the operational level is a delicate matter. To succeed, the mandate force uses both consensus and coercion. Negotiations continue at this level throughout the weapons-reduction process. Actions at the tactical level are even more difficult. They demand a great deal of courage and professionalism, and they require enough local military superiority to intimidate any possible participant.[23]

This new aspect of operations must be taken into account in military doctrines and in the education and training of future leaders.

Control of Humanitarian Emergencies

Over the last thirty years, calls upon the West for humanitarian assistance have become more numerous than ever before, notwithstanding their costs and political risks. This can be explained by the progressive emergence of an international conscience, under the influence of the media, which are very active in areas of conflict. This conscience has various modes of expression. One is personal commitment to nongovernmental organizations; these individuals, in turn, mobilize media campaigns to put pressure on Western governments. Further, there is an international movement toward recognizing an obligation to assist victims of natural disasters, industrial or environmental catastrophes, or war, through humanitarian-aid channels. Accordingly, armed forces must be prepared both conceptually and practically for humanitarian operations, even if their cost and political risks make them infrequent. The proliferation of humanitarian operations to date has revealed difficulties regarding political objectives, the role of nongovernmental organizations, and benefits extracted by belligerents.

The Contradictions of Humanitarian Aid. When confronted with a conflict requiring practical resolution, the UN and its member states tend—if only as a manifestation of what the British call the "do-something syndrome"—to resort to military-humanitarian operations. Military-humanitarian operations are a way of responding to contingencies whose political settlement is intractable. The inherent contradiction here has been widely criticized, by the media—which themselves contribute to interventionism—and by humanitarian organizations, as well as by the belligerents themselves.

Humanitarian help offered in this way jeopardizes the neutrality of the states offering the assistance. Humanitarian help extended through military intervention cannot be neutral; if it were, it would likely be useless. Without military support, persuasion against violence is ineffective. This is why the concept of "impartiality" discussed in doctrinal manuals must not be confused with neutrality. Impartiality does not rule out military action; in fact, it authorizes such actions to enforce the mandate of the intervening force. The issue is, then, the mandate itself—that is, political will.

The difficulties of humanitarian operations stem from the large number of actors: populations, the media, the host-nation government, potential assisting nations (and their relationships), humanitarian organizations, and perpetrators of violence. A mandate force is only one of many elements, each of which works according to its own logic. Major dislocations in the management of actions in a theater are a frequent result.

For instance, access to endangered populations is the top priority of aid organizations; to gain it, they have to accept compromises with belligerents. For armed forces, the security issue constitutes the priority; to impose this constraint on aid organizations, however, would limit their effectiveness, which accounts for much of their desire to remain independent of mandate forces. For armed factions, control of humanitarian aid is a way to buy allegiance or support from populations, or to impose control. Thus, it becomes a strategic instrument, like weapons, military alliances, or support networks beyond the state's boundaries.[24]

Military-Humanitarian Operations. Because political decision making takes time, military-humanitarian operations are usually implemented on an emergency basis, though the situation may have long

been deteriorating.[25] Therefore, military-humanitarian operations can be defined as operations designed to end, on short notice, situations posing imminent or actual danger to populations—that is, to secure the survival of great numbers of people.

Armed forces, with their equipment (especially command and control), structure, and readiness, constitute a powerful, organized resource for dealing with crisis situations. They are supported continually by specialized logistical and medical infrastructures. They can respond to aggression of any kind, and they can deploy equipment adapted to diverse circumstances. They can set up rapidly deployable telecommunication networks, as well as reestablish blocked routes and regulate flows of vital supplies.

Armed forces can assume four distinct roles (of which the first two can be performed in either a conflict or nonconflict context). They can conduct *emergency humanitarian operations*, to help populations in distress by delivering assistance themselves, or in cooperation with international and state aid organizations. Second, *emergency military intervention* assures the survival of populations by halting exactions and atrocities. It may be associated with the third role, *protection of humanitarian organizations*, their goods and people. Finally, there is *evacuation of noncombatants*, a part of the general humanitarian activity known in French as a *mission d'humanité*. Even in nonhumanitarian operations, armed forces may have to execute emergency evacuation operations.

Each of these roles corresponds to specific actions: evacuation of zones, gathering populations, assuring the security of humanitarian corridors, denying flight, and direct or indirect humanitarian assistance, as well as the protection of humanitarian actors. Success requires a common vision as to objectives and the responsibilities of the mandated forces and the other elements. Without such a shared vision, it is impossible to organize synergy, in term of know-how, equipment, and networks.

Information Control

The ability to communicate and exchange information is a key element in settling a conflict. It requires a control of communication networks, of information, and of their effects on the environment. A conflict can be analyzed as a disruption of the vast web of networks

already described; their stability needs to be reestablished. To control the information that circulates on these networks is essential for bringing back peace, whether by mastering violence or by coercive actions.

A Comprehensive View of Information. We are entering a century in which political, economic, social, and cultural visions are different from those that prevailed in the twentieth century. Nations will survive by their ability to integrate information from all sources and to think productively about it, forecasting and choosing the most appropriate solutions to problems. Political and economic criteria will not be the only relevant ones.

The first problem in the definition of *control* of information is to differentiate it from "information warfare." This concept, inspired by Alvin and Heidi Toffler's theory of the age of information, has been developed by the American armed forces in order to improve the art of war.[26] But as American doctrine describes it, information warfare embraces all aspects of an operation and therefore cannot usefully be delimited. Secondly, vocabulary also represents a difficulty. The terms "information" and "communication" have several meanings, and their use often causes confusion.

The third difficulty stems from the coexistence of three cultures (as defined by Pierre Levy) according to dominant modes of communication. First there is the "age of oral communication" in human societies, in which intelligence is identified with memory or knowledge of customs and tales; culture is transmitted through repetition, and time is perceived as cyclic. Then comes the "age of writing." Here, intelligence is perceived as reasoning ability: knowledge becomes theoretical, the object of analysis; time corresponds with history and is perceived as linear. This second stage represents a written culture. Third comes the "computer era." Intelligence lies in the ability to anticipate: knowledge is based on modeling and simulation; time is potential, and culture results from the collection of information. Thinking is elaborated through associations or superimposition of ideas.

The last difficulty lies in the evolution of communication means and their impact. The Persian Gulf War revealed how powerful an influence the media, especially television, has become for national decision-making processes and the conduct of operations. Media

support is necessary to any military operation, especially a humanitarian intervention, as their vision of a conflict shapes public opinion.

But with the development of the Internet, another tendency is growing. Through the linking of autonomous but networked sites, the public has access to many sources of information, albeit with attendant risks of disinformation or manipulation. Thus the Internet is also an actor, able to create information and broadcast it, encourage discussion groups, and thus exert influence and pressure.

The Information Cycle. The Tofflers deserve credit for revealing the size of the gap between the problems created by technology and the collective debate on these issues. This can be explained by the difficulty of departing from a vision of knowledge associated with written culture. Still, the military cannot isolate itself; it has to understand the multiple dimensions of the technological evolution now in progress. At issue is not only technological change but how one primarily understands events, solves problems, and acts in a conflict.

Information can be considered as *action:* it shapes the environment and makes it change. Information can be distinguished from more general action, however, in that it is directed especially at the psychological domain. Communication aims at influencing, even transforming, the environment. In short, we can say that information is the source of decision, which is then applied both through actions to shape the context according to goals, and through further information intended to give a meaning to those actions.

To control information involves making the environment more transparent, by identifying networks in different dimensions; obtaining a more precise knowledge of the current situation; anticipating future situations and the possible evolution of the various networks and dimensions; choosing a strategy or an initiative, with the help of decision-support systems; taking action in physical dimensions; using digitized information; and giving meaning to those actions by various means of communication or through psychological operations, if appropriate.

Intelligence and Command. Knowledge is the key to making right choices. Armed forces have always considered intelligence a major combat-support function; in peacetime, it not only supports operations but plays a role in deterrence and the prevention of conflict.

The "transparency of the battlefield" promised by new intelligence collection systems does not solve the problem of how to select the right intelligence for mastering violence. What categories of information are relevant? Surveillance of perpetrators of violence is not easy, since they may be decentralized in organization, even immersed in the population.

At the strategic level, intelligence has to be updated continuously in order to prevent crises, monitor them if they arise, and prepare for possible military interventions. Intelligence analysts must often infer transnational networks, in their human, financial, and logistics dimensions; knowledge of such larger structures is necessary to any decision to commit forces. More traditionally, strategic intelligence also includes geographical data about the theater, historical background, economics, and general characteristics of the belligerents. Operational intelligence, for its part, includes precise information on perpetrators of violence, conditions in the theater (such as terrain, weather, and infrastructure), and human and economic dimensions.

However, information is never complete. There is a danger of delaying a decision forever. In fact, a good decision anticipates the possible evolution of the situation instead of waiting for more information. This means that knowledge is not sufficient. The commander has to transform it, through reasoning, into understanding. This process is especially complex in asymmetric conflict. Changes are often difficult to perceive, since they are mainly psychological. The impact of negotiations, lobbying, or media is even more difficult to identify and monitor than the movement of forces. Still, such phenomena may be decisive.

However, anticipating the future remains essential, and this requires imagination, rationality, lucidity, and a sense of psychology—all aimed at producing a few plausible hypotheses simple enough to help in decision making. The decision-making process ends with a choice among perceived possibilities. It must be based on a number of criteria arranged according to their importance. Foreseeing the impact of the decision is even more important in an asymmetric conflict than in a symmetrical one. For this, the wise commander tries to identify the feedback mechanism that will provide the earliest reliable indication of the appropriateness of the choice he has made, so he may revisit the decision if necessary.

The Psychological Dimension. In France, psychological warfare is viewed with misgivings, since it has negative associations with propaganda. In the French context, it has a connotation of an ideological war, in which "hearts and minds" are conquered through manipulation, intimidation, and indoctrination. However, the fact that the concept of psychological action does not have a major place in the strategy of that democratic country does not mean that we should neglect the psychological dimension of operations.

In the types of conflict where Western armed forces intervene, the belligerents themselves may undertake psychological action of a hostile character: propaganda and social manipulation are used, sometimes to generate extreme violence. Democracies cannot respond in kind; their psychological actions must be consistent with the values they promote throughout the operation. Democracy requires that any military operation be explained and justified, before national and international opinion and to people in the theater of operations. This is a first-order task of psychological action. Another is refuting an adversary's propaganda, especially within the theater. In a conflict, intimidation or deception is also to be expected from a resolute adversary. While responsibility for countering these actions is at the political-strategic level, the theater commander is confronted on a daily basis with the necessity to act and react in this field. Psychological actions must be part of his planning.

The main purpose of psychological action is to give meaning to the operation, so as to make it acceptable to the groups concerned. "Meaning" shapes the environment in ways favorable to the desired political end-state. This notion is important when intervention occurs in a complex conflict wherein each belligerent can claim legitimacy. The reason for the intervention derives from responses to the belligerents' claims, that is, the meaning assigned to them by the international community. In turn, this determines the kind of operation undertaken: in the easiest but least frequent case, an act considered to be aggression is punished by a peace-enforcement operation.

Psychological action in an operation to master violence conveys the operation's meaning by giving rational explanations for the operation, based on the interests and values to be defended, and by generating emotional support for the success of the operation, often by showing a direction, expressed in the political end-state. Psychological action is thus an effort to convince the warring parties and the

populace that acceptance of the envisioned end state is in their ultimate interests. This requires that the following basic principles be respected. First, freedom of thought and expression, which constitutes the basis of democracy, cannot be restricted. Second, accuracy is essential if the message is to be convincing; it is not always necessary or advisable to provide all information available, but it is always dangerous to lie. Third, the credibility of the message must be ensured by its congruence with the actions taken by the intervening force. Finally, the message and courses of action have to be tailored to the objective and to the targeted groups, especially if a designated adversary exists.

Control of Forces

"Control of forces" is the prevention, by threat of force, of direct or indirect violence exercised by belligerents against populations, groups, or the environment. The issue is the appropriate degree of force to apply, since the international contingent desires not to achieve a military victory but to compel the adversary to give up his violent aggression, without triggering a war.

Limits on the Control of Forces. In an all-out war, military force is directed at an enemy's centers of gravity, as defined by Clausewitz—that is, the basis of his moral and material power. The destruction of these centers would put him in such a difficult position that he would have to abandon his aims. The belligerent's centers of gravity can be strategic or operational; they can be political and military decision makers, bases of operation, logistical resources, economic facilities, communication networks, the fighting spirit of troops and the population, or military forces themselves.

A deliberate assault on these centers of gravity is a major political issue, since it jeopardizes the political power of the targeted belligerent. In a peace-operation setting, the Western task force could easily make itself an enemy by such an attack. On what, then, should the coercive effort be concentrated?[27]

One possibility is *coherence points (points de coherence)*, the bases of the operational cohesion of an armed organization at the strategic, operational, and tactical levels. They could encompass the support facilities of a military force; its communication lines, disruption of

which would bring combat action to a halt; combat-support functions crucial to cohesion (intelligence, command, logistics, weapons capable of fires in depth, air defense, etc.); and morale, which can be hindered by undermining the political position of leaders. An attack directed at tactical and operational coherence points may intimidate a belligerent, demonstrating the superiority of the international force without initiating an (always dangerous) escalation process.

In parallel, or if the action directed against coherence points is not sufficient, military effects could be focused on the most significant *decisive points*. These are targets whose destruction, neutralization, or seizure would give direct access to operational centers of gravity. If the international force can seize a decisive point, it will be able to impede the adversary's maneuver without damaging its potential power. Decisive points may include the weak points of the adversary; these vulnerabilities can be increased by application of minimum force (for example, by disrupting a poorly organized combat-support function). A second possibility is key terrain. The seizure of dominating positions reinforces land-space control, facilitates the intervening force's own operations, and inhibits the options of the targeted party. A third decisive point would be positions (supply areas, tactical lines of communication, defense areas) that the adversary believes invulnerable.

The control of forces is a duel of wills.[28] The key is to convince the opponent to give up his strategy of violence by demonstrating the determination of the mandated force. Such a result is achievable only through understanding the adversary's political purposes, strategy, perceptions, and reactions. Among the most important things to understand are:

- How he expects to reach political goals and military objectives. His likely actions can be inferred by examining his military capabilities and how he has used violence in the past to realize his goals.
- The adversary's estimate of the capabilities and determination of the international force. It is crucial to understand what effect he believes the international force can have on his own power and on his freedom of action in the local political competition.
- The adversary's concerns about how his own domestic enemies evaluate his strength. A measured attack against what the

> international task force deems to be merely a cohesion point could be viewed by the adversary as an attack on a center of gravity if it undermines his position in the eyes of his local enemies. Such a miscalculation could push the adversary to extremely violent action.

Psychological perceptions, ideological visions, and rationality are the key factors for success in such a duel. Control of forces is an art, a more sophisticated undertaking than the usual military tactics, techniques, and procedures, because so many factors (each usually quite difficult to assess) are involved.

Control of Forces at the Operational Level. Military actions involving control of forces are mainly conceived and conducted at the operational level—in army terms, above the division. This is a substantial challenge, since a miscalculation of the belligerent's reactions may oblige the force commander to go beyond his initial goal.

To avoid mission creep, the proposed action must meet a number of conditions. First, it must be a response to a reprehensible or threatening aggression, or a particularly blameworthy action, perhaps a war crime. The response is a "mailed fist," demonstrating the determination of the intervening force to fight the upsurge of violence. Second, it must be limited in time and space—swift and commensurate in scope with the desired effect, which is to create shock in the mind of the targeted belligerent. Third, there can be no risk of misinterpretation. It must be perceived neither as an irreversible movement to war nor as a commitment in favor of one party against others. Fourth, it should target a symbolic objective, one that will draw favorable reactions in the international public opinion, and it must do so without collateral damage. The precision of strikes (especially by air) is at a premium. Any military action that kills or injures innocent people or their property will produce countereffects and must be guarded against.

Further, the action should be accompanied by intense land-space control, to ensure security for international units and preclude retaliation by the adversary. The action must also be announced, but nonetheless it must be implemented by surprise. The option of resorting to force must have been clearly stated. The psychological effect produced on this occasion is the first step toward control of

forces. An ultimatum is a good way to preserve political and military credibility, but the concrete course of military actions cannot be revealed. In certain circumstances, a punishment effect must prevail over psychological considerations; in case of a particularly egregious aggression, the force should immediately go into action. Finally, channels of negotiation must be kept open. Combat action must always give way to negotiation when required. In fact, the point is to induce all parties to negotiate, not to break up relations between them.

Control of Force Options. Several types of military action are available for control of forces. *Intimidation* is the last resort before recourse to coercion. Its purpose is to increase pressure on the belligerent in order to forestall violence. It should give him only two options: give up his aggression or clearly opt for deliberate action against the mandate force. As a practical matter, intimidation requires obvious changes in military disposition—reinforcement of security, intelligence and control activities, and emplacement of heavy weapons; it also involves a conspicuous increase of ground-space control activities. It may include new denials of air, maritime, and ground areas as well as sanctions in reaction to violations. Communications need to be tightly coordinated between command levels, discriminating between adversaries, populations, and friends. The ideal confrontation will be precisely orchestrated, capitalizing on the control of information and intelligence. It will prove that the international force knows perfectly well the military disposition of its adversary.

A *warning maneuver* is meant to demonstrate to the adversary his own vulnerability and the possible consequences for his operational and political credibility. Military force is applied at the coherence points of the targeted belligerent. The coherence points must be carefully selected and the psychological effect of their destruction precisely assessed. This is a major challenge, for which two options exist. One is to strike targets related to the reprehensible action (for example, propaganda can be fought by neutralizing information or telecommunication infrastructures); the other is to attack high-value coherence points anywhere in the theater of operations.

The psychological effect on the adversary varies according to the geographical distribution of the strikes. A set of very localized strikes can be perceived as reflecting an intention to stop some particular

action undertaken by the belligerent, whereas an attack on points scattered across the adversary's territory can be taken as a demonstration of the superiority of the international force. Psychological shock can also be optimized through the choice of strike assets: stand-off actions with "smart" munitions, aircraft raids, or insertion of special forces.

The *inhibition maneuver* involves weakening the political power of the belligerent by crippling his military capabilities, placing the targeted party in a critical situation in comparison to his political competitors. The international force thereby gains a decisive edge over him. Such an action is accompanied by a set of nonmilitary measures, such as: a diplomatic initiative aiming at isolating the belligerent from external support and increasing pressure on him; a media campaign stressing his personal accountability for actions and situations (with the aims of increasing his political isolation and supporting the preparation of an international indictment); and long-term economic measures (embargoes).

The military power of the mandated force is directed at the decisive points of the adversary so that he cannot accomplish an ongoing or planned aggression. This military demonstration of superiority is also designed to convince him to give up his action at once, if he does not wish to fight in unfavorable conditions. The key factors for success are surprise and force dominance. These conditions are close enough to classic military operations to warrant no further discussion.

The *deception maneuver* can be carried out on its own, to prevent the belligerent from taking some envisioned action, or to accompany the actions above. The "aimpoint" is the mindset of the adversary, his thinking. One can create and foster a false impression. This type of deception may be used to discredit the adversary or support a warning or inhibiting action. It involves some "demonstration" designed to keep the adversary's attention from the actual, concealed maneuver. It can also foster uncertainty, impeding the adversary's understanding of the situation or of the international force's intentions. To maintain uncertainty, the international force disposition should be frequently modified. Disinformation can be conveyed through communication channels to reinforce the adversary's feeling of uncertainty.

Notes

1. An operating mode is "the general manner of operating in a theater of operations in order to reach one or several objectives selected at the strategic level." French Army Staff, *Army Operations in a Joint Force Context* (Paris: 4 November 1998), pp. 2–19.

2. *Concept intégrateur* is a paradigm that provides several communities with a common vision of a society and a common way of life.

3. Samuel P. Huntington, "The Clash of Civilizations?" *Foreign Affairs*, Summer 1993, pp. 22–49.

4. Paul M. Belbutowski, "Strategic Implications of Cultures in Conflict," *Parameters*, Spring 1996, pp. 32–42.

5. The notion of ethnic conflict has been widely studied since the end of the 1980s. See Michael E. Brown, "Causes and Implications of Ethnic Conflicts," in *Ethnic Conflicts and International Security* (Princeton, N.J.: Princeton Univ. Press, 1993), pp. 5–26; Robert L. Pfaltzgraff, Jr., and Richard H. Shultz, Jr., *Ethnic Conflict and Regional Instability: Implications for U.S. Policy and Army Roles and Missions* (Carlisle Barracks, Penna.: U.S. Army War College, Strategic Studies Institute, 1994), p. 359; and David A. Lake and Donald Rothchild, "Containing Fear," *International Security*, Fall 1996, pp. 41–75.

6. Stuart J. Kaufman, "Spiralling to Ethnic War: Elites, Masses, and Moscow in Moldova's Civil War," *International Security*, Fall 1996, pp. 108–38. See also François Thual, "Les conflits identitaires," *Ellipses*, January 1995, p. 192.

7. In such a situation, the role of the local media after the collapse of the government is crucial in the development of the nationalistic grievances of the faction. See Jack Snyder and Karen Ballentine, "Nationalism and the Marketplace of Ideas," *International Security*, Fall 1996, pp. 5–40.

8. Johan Galtung, "Violence, Peace and Peace Research," *Journal of Peace Research*, no. 16, 1969, pp. 167–91.

9. Our taxonomy of violence based on its cause, motivation, and purpose is inspired by: W. J. M. Mackensie, *Power, Violence, Decision* (New York: Penguin, 1975); Fred H. von der Mehden, *Comparative Political Violence* (Englewood Cliffs, N.J.: Prentice Hall, 1970); Ted R. Gurr, *Why Men Rebel* (Princeton, N.J.: Princeton Univ. Press, 1970); John Dollard et al., *Frustration and Aggression* (New Haven, Conn.: Yale Univ. Press for the Institute of Human Relations, and London: Oxford Univ. Press, 1939); and Samuel P. Huntington, *Political Order in Changing Societies* (New Haven, Conn.: Yale Univ. Press, 1968).

10. Carolyn Nordstrom and Robben Antonius, CGM, *Fieldwork under Fire: Contemporary Studies of Violence and Survival* (Berkeley: Univ. of California Press, 1992), p. 299.

11. Michael H. Abbott [Col., USA], "The Army and the Drug War: Politics or National Security?" *Parameters*, December 1988, pp. 95–112.

12. The psychological effects of this kind of violence on individuals are described in a ten-year study of the Lebanese civil war: Dr. Adnan Houbballah, *Le virus de la violence: La guerre est en chacun de nous* (Paris: Albin Michel, 1996), p. 281.

13. Ralph Peters, "The New Warrior Class," *Parameters*, Summer 1994, pp. 16–26.

14. Lanza Del Vasto, *Techniques de la non violence* (Paris: Denoël/Gonthier, 1973).

15. The White House, *A National Security Strategy for a New Century* (Washington, D.C.: May 1997), p. 31; and John M. Shalikashvili [Gen., USA], *A Military Strategy for a New Era* (Washington, D.C.: Joint Staff, February 1997).

16. *Livre blanc sur la défense, la documentation Française* (Paris: 1994). See also President Jacques Chirac, "Mes priorités diplomatiques," *Politique internationale*, November 1997.

17. Boutros Boutros-Ghali, *An Agenda for Peace* (New York: United Nations, 30 June 1992), p. 57.

18. Boutros Boutros-Ghali, *Supplement to the Agenda for Peace* (New York: United Nations, 1994).

19. Roger Brunet, *Le territoire dans les turbulences* (Paris: Reclus, 1990); and Jean-Michel Hoerner, *Géopolitique des territoires*, Collection Études (Perpignan, Fr.: Presses Universitaires de Perpignan, 1996).

20. The taxonomy on human masses is inspired by Elias Canetti, *Masse et puissance* (Paris: Gallimard, 1966), and Serge Moscovici, *L'âge des foules* (Paris: Fayard, 1981).

21. Gustav Dänikar, *The Guardian Soldier: On the Nature and Use of Future Armed Forces*, Research Papers 36 (Geneva: United Nations Institute for Disarmament Research [hereafter UNIDIR], 1995), p. 141.

22. Fred Tanner, "Consensual Versus Coercive Disarmament," in *Managing Arms in Peace Processes: The Issues* (Geneva: UNIDIR, Disarmament and Conflict Resolution Project, 1996), pp. 169–204, 243. See also Swadesh Rana, *Small Arms and Intrastate Conflicts*, Research Papers 34 (Geneva: UNIDIR, March 1995), p. 52.

23. Andrei Raevsky, *Managing Arms in Peace Processes: Aspects of Psychological Operations and Intelligence* (Geneva: UNIDIR, Disarmament and Conflict Resolution Project, 1996), p. 46.

24. François Jean and Jean-Christophe Ruffin, *Economie des guerres civiles* (Paris: Hachette, 1996).

25. Chris Seiple, *The U.S. Military/NGO Relationship in Humanitarian Interventions* (Carlisle Barracks, Penna.: U.S. Army War College, Peacekeeping Institute, Center for Strategic Leadership, 1996), p. 231.

26. Alvin and Heidi Toffler, *War and Anti-War: Survival at the Dawn of the 21st Century* (New York: Little, Brown, 1993).

27. French military doctrine depicts the strategic center of gravity as a vital center: "The sources of the adversary's will or essential part of his ability to fight and sustain the combat. Destruction or neutralisation of these strategic level objectives will sooner or later defeat the adversary or force him to negotiate an acceptable solution." The operational center of gravity, the *centre déterminant*, is defined as "the main part of the adversary's combat power at the operational level, which, if attacked and seized or eliminated, will force him to give up his action on the theater of operations." French Army Staff, pp. 3-7, 3-8.

28. The idea of the clash of opposing wills is depicted in many places, including Edward N. Luttwak, *Strategy: The Logic of War and Peace* (Cambridge, Mass.: Harvard Univ. Press, 1987).

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NOTICES

This Issue's Cover

William S. Phillips hopes that this painting conveys "the beauty and exhilaration of flight." Primarily, however, he intends it to honor "a great American hero"—James B. Stockdale, U.S. Navy, who in 1964 was in command of Fighter Squadron 51, assigned to Carrier Air Wing 5 on board USS *Ticonderoga* (CVA 14), pictured here (the slanting structure aft of the "island" is a folding antenna mast). In August of that year, Commander Stockdale (whose F-8 Crusader is in the foreground, in a two-aircraft CAP, or combat air patrol, section) led the first U.S. air strikes into North Vietnam. The next year, by then commanding the air wing of USS *Oriskany* (CVA 34), Commander Stockdale would be shot down; finding himself the senior naval officer held by the North Vietnamese, he would display until his release in 1973 the leadership, courage, and "conspicuous gallantry . . . above and beyond the call of duty" that would earn him the Medal of Honor.

William Phillips, whose work also appeared on our Winter 1994 and Winter 1997 issues, is a highly regarded, widely exhibited, and award-winning aviation artist. His work appears by courtesy of The Greenwich Workshop, Inc., Shelton, Connecticut.

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The Naval War College Foundation intends to award one grant of one thousand dollars to the researcher who has the greatest need and can make the optimum use of research materials for naval history located in the Naval War College's Archives, Naval Historical Collection, and Henry E. Eccles Library. The recipient will be a Research Fellow in the Naval War College's Advanced Research Department, which will provide administrative support. Submit detailed research proposal, c.v., one letter of recommendation, and relevant background information to Miller Naval History Fellowship Committee, Naval War College Foundation, 686 Cushing Road, Newport, R.I., 02841-1207, by 1 August 2000. Employees of the U.S. Naval War College or any agency of the U.S. Department of Defense are not eligible for consideration; EEO/AA regulations apply.

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REVIEW ESSAYS

Misunderstanding Vietnam

Richard Megargee

Record, Jeffrey. *The Wrong War: Why We Lost in Vietnam*. Annapolis, Md.: Naval Institute Press, 1998. 256pp. $27.95

JEFFREY RECORD HAS SYNTHESIZED the vast body of Vietnam war literature into a concise analysis of why the United States lost in Vietnam, who was responsible, and whether defeat was avoidable.

Record lists five major causes for the American defeat. The first was the U.S. government's misunderstanding of the nature and significance of the war for both America and Vietnam. A succession of American administrations failed (in what Clausewitz describes as "the first, the supreme" act of strategic judgment) to "establish . . . the kind of war on which they are embarking; neither mistaking it for, nor trying to turn it into, something that is alien to its true nature." The conflict in Vietnam was regarded by the United States as an external aggression undertaken by agents of a monolithic Communist conspiracy ultimately bent on global domination. This "worst case" scenario stemmed from setbacks in the Cold War, such as fear of third-world vulnerability to wars of national liberation and expectations of a domino effect from any further defections in Southeast Asia. These concerns were heightened by the prospect of a domestic political backlash following another retreat in Asia.

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Decision makers thus saw the challenge as a test of American determination and commitment far beyond the import of Vietnam itself. A vigorous response presented an opportunity to stop additional Communist encroachment, thwart Chinese imperialism, honor U.S. defense commitments, defeat wars of national liberation, sustain emergent democracies, and avoid a possible Munich. However, Record claims that this attitude overlooked factors of Indochinese history such as Chinese-Vietnamese hostility and the internal, nationalist character of the conflict; it discounted the disadvantages of the political and geographic environment and the allies' indifference; and it ignored the absence of vital American interests. This erroneous interpretation of the situation led the United States to conduct the conflict not as a counterinsurgency but as a conventional war fought along lines most congenial to American military doctrine and forces.

The author attributes as the second cause for defeat the underestimation by the United States of the enemy's tenacity and capability, combined with an overestimation of its own political will and capacity to influence the war. From their perspective, the Communists were fighting a war of total effort and objective, seeking national unification and revolutionary transformation of Vietnamese society. (Over the eight years of the First Indochinese War, the Communists had displayed outstanding organizational skills, leadership, and discipline, as well as a willingness to sustain enormous sacrifices.) Like for the French, for the U.S. the war was limited in effort and objectives. Thus with only marginal security interests, the U.S. government had no intention of risking war with China or disrupting domestic social and economic goals in order to defend an artificial creation of the 1954 Geneva Conference. American commitment, or lack thereof, was evident by tentative application of military power, restricting the scope and areas of military activity, and refusing to disturb domestic society by mobilizing reserve units, increasing taxes, or awakening the public to the magnitude of the war. The disparity in commitment was apparently to be overcome by the nobility of the cause, America's overwhelming military power, and the

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Richard Megargee, professor emeritus at the U.S. Naval War College, was a member of the Strategy and Policy Department and director of the Electives Program from 1973 to 1997.

application of new techniques of nation building to achieve a viable South Vietnamese government. Unfortunately, the last goal was vitiated by the inability of the United States to control that government and save it from its own incompetence. While the United States focused on the tangible indices of military power (body counts, sortie numbers, munition tonnages, etc.) to crush its enemy, the Communists maintained superiority in the intangibles of discipline, initiative, endurance, and sacrifice, seeking to break the will of the American public without having to defeat its forces in the field.

These initial errors of judgment were compounded by the inappropriate strategies with which the United States conducted the ground war in the South. Herein lies Record's third cause of failure. Having identified the problem as external aggression, the United States undertook the strategy of attrition of invading forces, using massive search and destroy operations, which would compel the enemy's surrender by destroying troops faster than they could be replaced. That strategy, Record believes, was unsuited to the political and geographical environment, or to counter a strategy of protracted guerrilla operations aimed at political and psychological goals rather than destruction of armed forces. The Americans' assumptions that they could identify the enemy, initiate combat, control the tempo of operations, quantify enemy casualties, and achieve a break point of losses over replacements all proved illusory. The excessive use of firepower was counterproductive, producing only indiscriminate damage and exacerbating antigovernment sentiment. It did not force the Viet Cong or the People's Army of Vietnam to fight and die on conventional terms, much less reach a breaking point. These miscalculations were accompanied by the "Americanization" of the war, which meant that the United States assumed responsibility for the entire war effort, equipping and training the Army of the Republic of Vietnam to fight in the American mode but without imposing control over it in the field. The result further diverted effort and attention away from the insurgency problem, leaving it to the South Vietnamese government or to no one. So the United States proceeded with a strategy and tactics that had proven successful in its last three wars, regardless of their irrelevance in this war; they were the only ones the military was prepared (or motivated) to use.

As for the war against the North, Record paints a similar picture of failure resulting from inappropriate strategy—in this case the air

war. Prosecuted almost independently from the conflict in the South, the air war involved bombing North Vietnam, Laos, and Cambodia. Its initial objectives were to stave off defeat in the South, boost Saigon's morale, and obviate the need for extensive ground forces. Air operations were later escalated to interdict infiltration to the South and coerce Hanoi into stopping its intervention by showing U.S. resolve and capability to inflict intolerable damage on the North. Once again U.S. reasoning proved fallacious. The effect only hardened North Vietnamese commitment, increased escalation, and elicited greater reliance on Chinese and Soviet assistance. The campaign also discredited the United States abroad, consumed enormous material and human resources, and in the process gave Hanoi an exploitable prisoner of war issue. Ground forces were still indispensable to retard the collapse of the South Vietnamese government; infiltration was never seriously impeded; and the Communists were never forced to negotiate. Record agrees that gradualism, micromanagement, and target restrictions vitiated the impact of airpower, but he claims that divided command, confused goals, and service rivalry were equally damaging. He believes that early massive attacks on the North would have had no more impact on the insurgency in the South than did the sustained ROLLING THUNDER campaign. Such later operations as LINEBACKER I and II did not demonstrate the coercive capability of massive airpower in a war already lost and would have been politically, diplomatically, and morally unsustainable.

The fourth reason given for America's failure in Vietnam is its commitment to a client who for over twenty years was incapable of establishing a viable alternative to Communist rule, governing or fighting with a modicum of efficiency, or inspiring the loyalty and sacrifice of the Vietnamese people. Under these circumstances, no American strategy could have guaranteed the survival of an independent, noncommunist South Vietnam. The failure of the United States came initially from giving this problem insufficient attention. After accepting the deposition of the Diem regime and implicitly assuming responsibility for the conduct of the war, the United States did not insist upon the necessary reforms for effective rule and military operations. Unable to cure the country's social and economic problems, the United States concentrated on the military, arming and training the South Vietnamese army in its own image. However, despite years of advice and support from America, the South

Vietnamese army shared the incapacity of its parent government. It was never able to stand up to the Viet Cong or the North Vietnamese army, which is not surprising given its elitist, venal, incompetent officer corps, and its demoralized, despised, ill-trained, and corrupt troops. Could the U.S. assumption of civil and military authority have made a difference? Record thinks not. The dissolution of the society was too far advanced, and the fear of a neocolonial mantle would have only increased opposition at home and abroad. So the war evolved into a struggle not between contending Vietnamese factions but between a nationalistic communist movement and the United States, with its wholly dependent local surrogate.

Record attributes the final source of failure in Vietnam to the effects of bitter civil-military antagonism over the conduct of the war. In his exploration of this subject he attempts to assess overall responsibility for the disastrous outcome. Disagreements were not over constitutional prerogatives as in the past wars (the military never challenged the primacy of civilian policy makers) but over how the war should be fought. Record argues that the disagreements made it impossible to pursue a coherent strategy. The U.S. military never supported the administration's gradualist, limited-war strategy. Chafed by the proscription on ground operations in Laos, Cambodia, and North Vietnam, as well as restrictions on bombing targets in the North, it never accepted the refusal by successive administrations to mobilize reserve units or to upset public opinion. Military leaders felt consigned to the role of not losing rather than of winning. On the other hand, the Kennedy and Johnson administrations were openly contemptuous of the military professionals. Both presidents intruded into the military realm by attempting to micromanage operations for signaling and negotiation purposes rather than seeking decisive military objectives; they excluded military leaders from the highest policy councils. These divisions impeded both the coherent formulation and implementation of any strategy.

Record places primary responsibility for the overall failure in Vietnam on civilian leaders. As the duly constituted authorities, they clearly bore principal responsibility for their failures to understand the true nature of the conflict and its significance to vital U.S. interests, and to estimate correctly the viability of South Vietnam. They were also complicit in the flawed ground and air strategies, as well as the civil-military divisions. Record harshly condemns both

Democratic presidents and their principal advisors for their lack of moral courage either to withdraw from an intervention they doubted to be feasible or wise, or to alert the public to its potential magnitude.

However, Record believes the military to be only slightly less culpable. He criticizes it for failing to support the approved strategy or to recommend a more viable one; for not creating a unified Southeast Asia Command, much less a combined U.S.–South Vietnamese command; for ruinous rotation policies; for profligate logistic support and base facilities; for excessive use of firepower; and for chronic inability to transcend service rivalries. Record finds no greater moral courage among the senior military leaders than he did among civilians. They continued to serve politicians who were contemptuous of them and who imposed fatally flawed policies and strategies. They never once advised the president or secretary of defense that their strategies would probably fail. The military never contemplated withdrawal, only the application of more force.

In his final chapter, Record concludes that the causes of failure may be irrelevant, because an independent, noncommunist South Vietnam was unattainable—no decisive military effort would have been morally or politically acceptable to the American people. He sees no evidence to support the theory that if the military had been granted greater latitude a political victory would have been achieved. Its formula to mine North Vietnam's deepwater ports and inland waterways, bomb all militarily significant targets and lines of communication inside the Democratic Republic, and inject ground forces into Laos and Cambodia to disrupt Communist base areas and interdict communications, might have indefinitely denied the Communists an ability to take over the South forcibly. But this was no war-winning strategy to establish a self-sustaining South Vietnamese government. It would only have widened the war, required more troops, and risked external escalation without addressing the insurgency problem or inducing Hanoi to abandon its effort to reunify the country. It also ignored the limits to America's willingness to support an indecisive and indefinite military intervention.

On the other hand, the author also does not see how more restrained alternatives would have helped the cause. An enclave or population protection strategy would have ceded initiative to the enemy and resulted in protraction best suited to the Communists' objectives. The locally successful Marine and CIA pacification strategies, which

indeed were directed at the key problem, were not viable on a wide scale, and the U.S. Army was neither doctrinally nor structurally capable of undertaking such a strategy nationwide, especially without the necessary commitment and capability of local government forces.

Record is even more critical of such radical alternatives (especially popular among later critics of the war) as invasion of the North and saturation bombing. Invading the North might have forced the North Vietnamese army out of the South and given Saigon time to establish a responsible government. However, it would have risked escalating the war, inspiring even greater North Vietnamese commitment, prompting countermeasures by China or the Soviet Union, and requiring mobilization of the American economy and its society. Moreover, it would have expanded the objective of the war from a limited one to the overthrow of the Democratic Republic of Vietnam and the unification of Indochina, objectives far beyond America's original goals. As for massive bombing of the North, there is little evidence that such a campaign against population centers, food supplies, and dikes would have been decisive in either forcing Hanoi's capitulation or interdicting aid to the South. However, it clearly would have been politically, morally, and diplomatically unacceptable and out of all proportion to the limited nature of the war. So the United States lacked any decisive war-winning options, and those that were proposed were irrelevant to the gravest of all problems, the total incapacity of Saigon. The best that could be hoped was to deny the Communists victory by permanent Americanization of the war and Saigon. As was said of another U.S. limited war, it was "the wrong war, at the wrong time, in the wrong place."

This reviewer can claim no deep knowledge of the Vietnam War, either from first-hand experience or from specialized study. His familiarity with the subject and its literature comes from twenty-six years of teaching seminars on policy and strategy to senior officers at the Naval War College; these classes included case studies on Vietnam (at least for the past nineteen years, the subject being too sensitive for inclusion in the curriculum prior to that). From that perspective, Record's catalog of failures did not offer many surprises, since most of them are at least prefigured, if not expressly stated, in the works of G. C. Herring, G. M. Kahin, A. F. Krepinevich, M. Clodfelter, and E. M. Bergerud, among others. The virtue of this work lies not in its revelations about the failures of the war (which

Record concedes are generally known) but in the strength of its chapters condemning both civilian and military leadership, and making clear the unwinnable nature of the struggle. Despite some redundant material, this book has clearly and concisely identified the shortcomings of the American political and military system, revealed by one of the greatest tragedies in U.S. history.

This work surely will not be the last word on the subject, but it is among the most persuasive critiques to date.

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The Venona Progeny

Hayden B. Peake

Benson, Robert Louis, and Michael Warner, eds. *Venona: Soviet Espionage and the American Response*. Washington, D.C.: National Security Agency and Central Intelligence Agency, 1996. 450pp. $48.80

Ball, Desmond, and David Horner. *Breaking the Codes: Australia's KGB Network, 1944–1950*. St. Leonards, Australia: Allen & Unwin, 1998. 468 pp. $29.95

West, Nigel. *Venona: The Greatest Secret of the Cold War*. London: HarperCollins, 1999. 384pp. £19.99

Haynes, John Earl, and Harvey Klehr. *Venona: Decoding Soviet Espionage in America*. New Haven, Conn.: Yale Univ. Press, 1999. 487pp. $30

Weinstein, Allen, and Alexander Vassiliev. *The Haunted Wood: Soviet Espionage in America—The Stalin Era*. New York: Random House, 1999. 402pp. $30

Albright, Joseph, and Marcia Kunstel. *Bombshell: The Secret Story of America's Unknown Atomic Spy Conspiracy*. New York: Time Books, 1997. 399pp. $25

Breindel, Eric, and Herbert Romerstein. *The Venona Secrets: The Soviet Union's World War II Espionage Campaign against the United States and How America Fought Back: A Story of Espionage, Counterespionage, and Betrayal*. New York: Basic Books, 1999. 400pp. $30

IN 1939, WHEN THE SOVIET UNION was an ally of Nazi Germany, the U.S. Army began collecting copies of encrypted cables sent commercially to Moscow by the Soviet diplomatic missions in the United States. No effort to decrypt the cables, thought to be diplomatic in nature, was made until 1943, when reports were received that Stalin, by then an ally of the United States, was negotiating a separate peace treaty with Germany. At that time, the Army Signals Security Agency (SSA), an early predecessor of the National Security Agency (NSA),

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was ordered to establish a program—eventually called VENONA—to decipher the cables. The Soviet codes did not yield readily to cryptanalysis, because, as it was soon discovered, a two-part ciphering system had been employed; the second step used a one-time pad—theoretically unbreakable. As it happened, none of the messages was deciphered before the end of the war.

Once progress began to be made, however, the SSA cryptanalysts made a startling discovery. Only slightly more than half of the 750,000 intercepted cables concerned foreign ministry and trade matters; the balance involved Soviet intelligence organizations. By 1946, when the first message was decrypted, KGB, GRU (military intelligence), and naval GRU–user systems had been identified. When the VENONA program ended in October 1980, portions of nearly three thousand of the cables intercepted between 1939 and 1948 had been decrypted. The results revealed that Soviet agents had penetrated every important organization in the American government, including the Manhattan Project. The Allies were not immune; VENONA revealed Soviet penetrations in Britain, Canada, and Australia. In 1995 the VENONA decrypts were declassified. Hard copies were made available to scholars, while digital versions were posted on the NSA Website, together with several monographs providing historical details.

The public reaction to the VENONA decrypts was mixed. Walter and Miriam Schneir, longtime advocates of the "the Rosenbergs are innocent" theory, wrote in the 5 July 1999 issue of *The Nation* that "no reasonable person who examines all the relevant documents can doubt, for example, that in World War II Washington some employees of government agencies were passing information that went to the Russians, that the American Communist Party provided recruits for Soviet intelligence work or that VENONA yielded clues that put

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investigators on the trail of Klaus Fuchs[,] . . . Julius Rosenberg and others." But many still could not accept the charges that Communist Party members had engaged in espionage for the Soviet Union. There were a variety of countercharges. Some claimed that the U.S. government had fabricated the cables. Others argued that the interpretation of the partially decrypted messages was faulty. Still others claimed "Red scare revisionism," coupled with "right-wing triumphalism," aimed at rehabilitating Senator Joseph McCarthy.

The books discussed here consider these issues to varying degrees. They reveal how the codes were broken, who did the work, the nature of the espionage, how the Soviets found out about VENONA (long before the CIA was officially informed by the FBI in 1952), and why most of the spies identified were never prosecuted. While there is some overlap between them, each book contributes its own details and analysis.

Robert Louis Benson is the NSA's point man and institutional memory for VENONA. Michael Warner is a gifted young historian in the CIA's Center for the Study of Intelligence. Together they contributed to and edited the first major book on the program, *Venona: Soviet Espionage and the American Response*. It provides a chronology of major events and a concise summary (thirty-three pages) of the program: why it began, why it ended, and what happened in between. Benson and Warner support their analysis with documentary material—some reproduced for the first time—presenting it in two parts. The first part comprises thirty-five documents that reveal the U.S. government's attempts to deal with foreign espionage between 1939 and 1960. The emphasis is on Soviet intelligence and the consequences of the VENONA revelations. The second part contains copies of ninety-nine VENONA decrypts selected to show what they looked like when distributed and to indicate the extent to which decryption was possible. This traffic originated for the most part in the United States and Moscow, though one cable from Mexico City to Moscow is included, and it deals with Communist Party, KGB, and GRU matters. While this book is an excellent introduction to the program, it does not deal in depth with the details of how the decrypted cables were analyzed or the impact of VENONA on the resulting espionage cases. These details are addressed in the six books discussed below.

The approach taken by British intelligence historian Nigel West in *Venona: The Greatest Secret of the Cold War* differs in several respects

from those of the other books reviewed here. While each has chapters about how VENONA originated and functioned in America, West broadens the geographic scope. Although West's primary focus is Britain, he includes the impact of VENONA on Australian security, with its links to the United States and Britain, and he is the only author here to describe the links to France, Finland, and Sweden. Also, he uses the decrypts themselves; instead of just summarizing content, he quotes many of the actual messages in the narrative with gaps indicating the undecrypted portions. This accounts, in part, for the skimpy endnotes. Seeing the structure of the actual decrypts gives the reader a good feel for the uncertainties involved and helps explain why it was so difficult and sometimes impossible for the FBI to identify agents.

After the British joined the VENONA operation in the late 1940s, they began to decrypt and analyze cables sent over the London-Moscow and Moscow-Canberra circuits. (The results, with a mix of clear text and gaps, were released by NSA in 1996.) The task for the analyst was to use the clues provided by the clear text to determine the identity of the agent. While not always possible, West, after analyzing GRU traffic from London to Moscow, for the first time puts true names to Soviet agents identified previously only by their cryptonyms in VENONA. For example, Igor Montagu (cryptonym Nobility), brother of Ewen Montagu (author of *The Man Who Never Was*), was a life-long communist who spied for the GRU, though his family never suspected either. In another instance, West identifies "Intelligentsia," an active GRU agent, as the well known British scientist J. B. S. Haldane, who was helped by his wife Charlotte. For reasons not made clear, West concludes that the still unidentified VENONA Agent 19 (thought by some to be Harry Hopkins) was Eduard Beneš.

West is the only VENONA author to mention STELLA POLARIS, an operation that involved the Finnish acquisition of "100 boxes of Soviet cryptographic material" that was stored for a while in Sweden but eventually played a role in VENONA. Similarly, he provides new information on Soviet agent and British musician Ernest D. Weiss, while devoting a chapter to the more familiar but still interesting Cambridge network.

In the postscript chapter, West comments on how VENONA affected the lives of the cryptologists in Britain and America. The appendices include a list of cryptonyms of the London GRU traffic and

a glossary of Soviet cover names that were used in VENONA, arranged alphabetically by cryptonym, or cover name. Haynes and Klehr have similar lists, arranged alphabetically by the agents' true names. Access to both eases identification problems. In short, West gives the most comprehensive coverage of the VENONA program and provides a good place to become familiar with its scope and depth.

Professor Desmond Ball and David Horner, a Senior Fellow, are with the Strategic and Defence Studies Centre at the Australian National University. Each has written extensively in the national security field. Their book, *Breaking the Codes*, was the first to be published after the release of the VENONA decrypts in 1995; it is primarily concerned with ten Australians who spied for Soviet intelligence. From 1943 to 1949 ten individuals delivered to their communist handlers classified documents from the Australian military, domestic security, and external affairs departments, as well as British and American strategic plans. By 1945 Australian security officials knew there were leaks in the system, but it was not until the Americans and British informed them of the VENONA decrypts from the Canberra-Moscow KGB link that the sources became known.

Several of the ten were first named publicly in 1954 by KGB colonel Vladimir Petrov and his code-clerk wife when they defected to Australia. However, in reality, as Ball and Horner reveal, some of the identities, although attributed to the Petrovs, actually came from VENONA. At the time, many Australian historians and political scientists dismissed the accusations as a conspiracy designed by politicians to win an election. In general, it was denied that the Soviets had conducted espionage in Australia in the 1940s. So intense and persistent was this belief that after rumors of the decrypts surfaced in the 1980s, Australian historian Frank Cain wrote (in 1991) that "there were no such decrypts." When Ball and Horner learned of the VENONA program, some years before its declassification, they were, of course, obligated to remain silent, never expecting the decrypts would be declassified.

Breaking the Codes includes a summary of the basic program, with much more detail concerning Australia. Though there were relatively few Australian decrypts (about two hundred out of five thousand), they had a major impact on national intelligence and security policy. The book also offers a short history of Australian intelligence, its World War II role (including naval intelligence and naval ULTRA),

and its close links to Britain's Security Service (MI 5). The U.S. decision to deny classified intelligence to Australia in 1947 and the circumstances under which that access was restored in 1950 are also discussed. The chapter on the formation of the Australian Security Intelligence Organization (ASIO) makes the point that it was created to demonstrate to the British and Americans that Australia was taking its security obligations seriously. In this regard, the case studies of the agents identified by VENONA are of real interest. In some cases, the evidence against the agents was enough to justify withdrawing their access to classified information, but not specific enough to dismiss them from their external affairs positions. Some remained in nonsensitive positions for over thirty years. Others, like Ian Milner (cryptonyms Bur/Dvorak), the so-called "Rhodes Scholar Spy," took a different path. When security began closing in, Milner defected to Czechoslovakia and worked for its intelligence service.

One revelation, now of historical interest only, was that during World War II Australian agents gave Allied war plans in the Pacific to their Soviet masters, who then "allowed" the Japanese to acquire them. Whether the Australian agents knew about this is unclear, but the authors quote Australian Communist Party leaders as saying, "We want a Russian victory, not necessarily an Allied victory."

The book is well written and impressively documented with primary sources. Although most of the VENONA decrypts are quoted in part, several are reproduced in facsimile. *Breaking the Codes* should put a full stop to the efforts of the professional-historian doubters from Down Under to vindicate their communist colleagues from charges of espionage. It can no longer be denied; the VENONA decrypts exist, and they are hard evidence.

In their 1992 book *The American Communist Movement: Storming Heaven Itself*, written before the collapse of the Soviet Union, Library of Congress historian John Haynes and Emory University history professor Harvey Klehr wrote that although "American Communists owed their first loyalty to the motherland of communism rather than the United States . . . in practice few American Communists were spies." They went on to conclude that viewing "the American Communist Party chiefly as an instrument of espionage or a sort of fifth column misjudges its main purpose."

In their latest book, *Venona: Decoding Soviet Espionage in America*, the same authors have revised their previous assessment, for reasons

they could not have foreseen. Between 1992 and 1998 they were granted unexpected access to the records of the American Communist Party (CPUSA), which until then were secretly kept in the Soviet archives. The initial result was another book, *The Secret World of American Communism* (1995), based in part on cable traffic between the KGB residences in New York and Moscow, that showed conclusively that the CPUSA had "an underground arm," something long denied by the American party members and some historians. This book was read by Senator Daniel Patrick Moynihan, who then headed a commission on secrecy. He contacted the authors and Director of Central Intelligence John Deutch in May 1995. The issue was simple: if the Russians allowed Americans access to their cables, why shouldn't the United States do the same? A few months later, the VENONA decrypts were declassified. In many cases analysts were able to compare the NSA decrypts with the Soviet full-text originals. Charges of fabrication were soon put to rest. The facts in the VENONA documents, never intended to be released by either country, were damning. The previous cautious assessments had to be revised. Not a few "but hundreds of American Communists . . . abetted Soviet espionage in the United States" in the 1930s and 1940s. Some have never been identified beyond the cryptonyms used in the VENONA cables, but the evidence identifying many others, some long suspected, is irrefutable. Haynes and Klehr have done a masterful job of analysis and have presented it in a very readable fashion.

After interesting chapters that review the origins of the VENONA project and how the Soviet code was broken, Haynes and Klehr document in some detail who the American spies were, how they operated, and how Army and FBI intelligence analysts, working with partial decrypts, gradually linked cryptonyms to true names. Some were well known and highly placed in the government. For example, VENONA cables confirmed that Alger Hiss (Ales) of the State Department was a GRU agent and that Harry Dexter White, assistant secretary of the treasury, served the NKGB.* There is more on the spy ring run by Julius Rosenberg and his wife; he was an active NKGB agent,

* Some use a generic KGB, while others refer to NKGB and MGB for the entire period discussed. Actually, the Soviet foreign intelligence organization had several names: NKVP, NKGB, MVD, MGB, KI, and KGB (first used in 1954). The name NKGB was used between 1941–1946, the period containing most of the VENONA cables.

and she knew it. The VENONA decrypts also show that the American networks violated nearly every principle of clandestine operations—most of the American agents had received little or no training. A good example of this is the Golos-Bentley network, which functioned in Washington, D.C. The decrypts confirm that careless tradecraft was one reason why the NKGB took over the agents from the American communists who initially ran them. The takeover by the NKGB, VENONA makes clear, is the principal reason why Elizabeth Bentley defected to the FBI. Her testimony, criticized in the media as "the bizarre rantings of a neurotic old maid," was later confirmed by VENONA, and it contributed greatly to the disintegration of the Soviet espionage networks in America.

Despite their sloppiness, it cannot be denied that the Soviets were amazingly successful. VENONA makes absolutely clear that they had active agents in the U.S. State Department, Treasury Department, Justice Department, Senate committee staffs, the military services, the Office of Strategic Services (OSS), the Manhattan Project, and the White House, as well as wartime agencies. No modern government was more thoroughly penetrated. The Soviets were even told about the VENONA project, but there was little they could do about it at that point. Another measure of the magnitude of Soviet penetration in the United States is provided in the appendices. One lists 349 Americans and U.S. residents identified by VENONA who spied for the Soviets; another lists 139 Soviet spies known from other sources.

The authors recognize that the VENONA decrypts are not infallible. They base their conclusions about Soviet espionage on a variety of corroborating evidence. They also acknowledge that some messages contain errors, and they are careful to allow for them. For example, Morton Sobell (convicted with the Rosenbergs) was identified in one decrypt as having only one leg, a point he has easily disproved.

Still, not everyone is convinced. Faced with the emerging power of truth, some have adopted naive interpretations of the evidence. Scottish professor Roger Sandilands, biographer of White House assistant Laughlin Currie, is a case in point. In a series of postings on the Internet directed at Haynes and Klehr, Sandilands suggests that the VENONA cables reporting Currie's FBI-monitored conversations and meetings with the NKGB resident in Washington can plausibly be interpreted as reports of "innocent conversations." He neglects, among other things, to point out that Currie did not report his

contacts with known Soviet intelligence officers and was not representing the government in those contacts, and that others present were suspected Soviet agents. But these desperate efforts at self-justification are now in the minority. For most, *Venona: Decoding Soviet Espionage in America* is the final word.

In 1991, the KGB and Crown Publishers of New York conceived a precedent-setting publishing agreement. The original idea was to write a series of Cold War intelligence histories coauthored by Soviet historians and American counterparts, with each side providing appropriate primary-source material. However, before the contract was signed, the Soviet Union disappeared. Nevertheless, the KGB's foreign intelligence service successor, the SVR, decided to conclude the agreement—only to have Crown Publishing withdraw. The coauthors already lined up were thus left to their own devices, and all found their own publishers. For historian Allen Weinstein and his coauthor, former KGB operative Alexander Vassiliev, it was Random House, and *The Haunted Wood* is the result.

Like Haynes and Klehr, Weinstein and Vassiliev began their research in Russia, but in their case they were given access, in 1993, to portions of the KGB/SVR archives, not just the American Communist Party records—material never before made available to historians. By 1995 this material had revealed more than the SVR intended, and further access was denied. By then it was too late; there was enough material for a book, and a manuscript was drafted. When the VENONA decrypts were released, the authors found they corroborated many of the cases in their draft book. Moreover, forty of the partially decrypted VENONA cables matched the full-text cables previously released for *The Haunted Wood*—a historian's dream come true. All of this material, combined with defector testimony, allowed the authors to clarify previously known operations and add corroborating detail. For instance, the cables revealed that it was Cambridge spy Kim Philby who told the NKGB that Elizabeth Bentley had defected to the FBI. The new material confirms details concerning the atom spies, Harry Dexter White's role, the Hiss case, and a number of others. The chapter on the OSS (long known to have been deeply penetrated) adds new names and corroborates agents identified in VENONA. No intelligence service had so many moles. Regarding the nonexecutive-branch agents, the authors also expose several previously unreported penetrations. The most spectacular example is the case of

Congressman Samuel Dickstein, the man who introduced legislation that eventually produced the House Committee on Un-American Activities. Dickstein spied for the NKVD in the late 1930s; he was one of the few who served his Soviet masters strictly for money.

The Haunted Wood also adds new detail to the case of Hollywood film producer Boris Morros, a Soviet spy for years before being discovered, thanks to VENONA. Questioned by the FBI, Morros quickly realized his predicament, and to save his skin, he volunteered to become a double agent. He did a good job. In his 1959 book, *My Ten Years as a Counterspy*, Morros leads the reader to believe that it was he who sought out the FBI. Part of the same espionage ring was Martha Dodd. Her father was the American ambassador to Germany in the 1930s. She started her spying in Berlin and continued well into the 1950s. She and her American husband, who was also a Soviet agent, escaped to Eastern Europe, where they remained until their deaths. The Soviet files show that she became the lover of her KGB recruiter and tried for years to marry him, though he had a wife and family in Russia.

The documentary evidence is cited in endnotes by KGB file number, volume number, and page number—a system that raised concerns among reviewers, scholars, and people named as agents, because there is no way to check such citations. For example, in the case of Michael Straight, recruited for the NKVD by Anthony Blunt in the 1930s while both were at Cambridge, *The Haunted Wood* makes the statement that Straight met with and reported to Theodore Mally and Arnold Deutsch, two well known NKVD recruiters in England. Not so, says Straight: he never met either man, let alone reported to them. At the time, he was still in school, and Blunt was his only contact. There is no way to determine the basis for the *Haunted Wood* judgment; all the others involved are dead. It is true, however, that the VENONA decrypts do not provide any corroboration. Perhaps the records were mistranslated or misinterpreted, or perhaps Blunt made erroneous claims to enhance his own position. The alternative, that they were fabricated to perpetuate some Soviet myth or otherwise deceive the West, is less tenable. In any event, final judgment in cases like this must be withheld.

The authors acknowledge that doubts will remain concerning particular cases until complete access to the KGB files is possible. Still, from the evidence that Weinstein and Vassiliev present, it is fair to

conclude that during World War II, the Soviets treated the United States as an espionage enemy, not as an ally. Also, mainly because of VENONA, their postwar operations were closed down, bringing to an end the era of the ideological communist agent.

The scope of the books described so far is too broad to look closely at any particular case. However, journalists Joseph Albright and Marcia Kunstel (husband and wife) do just that in their book *Bombshell: The Secret Story of America's Unknown Atomic Spy Conspiracy*. They tell the story of one Soviet agent, Harvard physicist Theodore Hall, known in VENONA as Mlad. When the VENONA decrypts were first released, Mlad's identity was blacked out. A subsequent release left his name in clear text, but by then, on the basis of the clues remaining in the original text, *Washington Post* journalist Michael Dobbs and scholar Herbert Romerstein, who studied the American Communist Party, had already identified him. They soon learned that Hall was living in Cambridge, England, and both interviewed him before publishing any articles naming him as Mlad. Albright and Kunstel, hearing about the story while working in Moscow, went farther and produced their book. It is based on VENONA, sixteen days of interviews with Hall, and interviews with some of his former controllers and Western intelligence officers.

Like Whittaker Chambers and Elizabeth Bentley before him, Ted Hall was a committed communist. He too volunteered to be a Soviet agent. Quickly accepted when the NKVD learned he worked with the Manhattan Project, he soon began passing them atomic secrets, using couriers. After the war Hall was investigated by the FBI, but there was not enough evidence to prosecute him without revealing VENONA. Nevertheless, he was not taking any chances. He moved with his wife to Cambridge in the early 1950s.

Bombshell also reveals the roles of three of Hall's courier-colleagues, Americans Saville Sax, and Morris and Lona Cohen. The former escaped prosecution when the FBI decided to protect VENONA. The Cohens, warned by the MGB, avoided capture in America, and later served the KGB in England, as "Peter and Helen Kroger." While working with a KGB illegal, Gordon Lonsdale, the Cohens were caught, tried, and imprisoned. They were later traded to the Soviet Union, where they spent the rest of their lives.

Hall admits his communism, and, indirectly in the book, his espionage, adding that he is "by no means ashamed" of what he did—"it

was for the good of mankind." In a later interview shortly before his death, shown as part of episode 21 of CNN's *Cold War* series, Hall finally admitted, explicitly, his treachery, still with no apology.

There is one more book based on VENONA due out in 2000, the late Eric Briendel and Herbert Romerstein's *The Venona Secrets: The Soviet Union's World War II Espionage Campaign against the United States and How America Fought Back: A Story of Espionage, Counterespionage, and Betrayal*. It has distinction beyond its long title. It will add corroboration to the work of Haynes and Klehr with new documentation and analysis, putting particular emphasis on the role of the Communist Party in Soviet espionage in America. Undoubtedly, the most controversial facet of this book will be the portion arguing that Harry Hopkins was VENONA Agent 19. This will surely not be a popular thesis.

Two nagging, inadequately treated questions remain. The first, why so many Americans and citizens of its wartime allies spied for Stalin, is dealt with in varying degrees in each book. The collective answer is the agents' deep belief in the communist ideology. But that does not explain how such intelligent people could have blindly believed in a cause when so much evidence contradicted its utopian claims. The second question, perhaps the more important of the two from an intelligence point of view, is, what difference did all the spying make in the end? This answer is left by each of the authors to future historians. Thus one might reasonably conclude that there is surely one more book about VENONA to be written.

Ψ

BOOK REVIEWS

Master Theory of the Causes of War

Van Evera, Stephen. *Causes of War: Power and the Roots of Conflict.* Ithaca, N.Y.: Cornell Univ. Press, 1999. 270pp. $35

STEPHEN VAN EVERA, AN ASSOCIATE PROFESSOR of political science at the Massachusetts Institute of Technology, claims to offer a "master theory" explaining the causes of war. He also seeks to provide policy prescriptions to show soldiers and statesmen how to make conflict less likely. It is a lofty aim, but the book falls far short of its mark.

Causes of War is a revision of part of a fifteen-year-old dissertation that must rank among the most widely cited unpublished works in history. It is a work of social science in which Van Evera takes great care to observe all the methodological conventions of the field. The resulting volume is thus of greater interest to students and professors than to soldiers and statesmen. It is, at its core, a book about formulating and testing hypotheses. It is organized around five hypotheses: (1) "war is more likely when states fall prey to false optimism about its outcome," (2) "war is more likely when the advantage lies with the first side to mobilize or attack," (3) "war is more likely when the relative power of states fluctuates sharply," (4) "war is more likely when the control of resources enables the protection or acquisition of other resources," and (5) "war is more likely when conquest is easy."

Van Evera devotes the first four chapters to his first four hypotheses. These chapters collectively offer a useful survey of how power, and perceptions of it, can create incentives for war. At times, however, the book's search for a "master theory" clashes with the demands of careful scholarship. In some cases, Van Evera cites evidence that

supports his hypotheses while omitting equally persuasive facts contradicting them. Elsewhere, he draws upon ambiguous or contradictory cases, and he frequently makes assertions without corroboration. He claims, for example, that while striking first rarely confers a battlefield advantage, leaders often operate under the illusion that it does. He offers no basis for this conclusion but merely lists cases that he believes support it. Moreover, the cases he examines in depth—World War I, China's entry into the Korean War, and the 1967 Arab-Israeli War—are at best ambiguous with respect to this issue.

The heart of the book examines the hypothesis that war is more likely when conquest is easy—in other words, when the offense is at a marked advantage. Van Evera argues that his formulation of offense-defense theory offers the master key that unlocks the causes of war. It is, however, little more than a retread of models that grew during the Cold War out of nuclear deterrence theory and the study of the origins of World War I. There is scant evidence that statesmen actually decide to start wars because of a perceived offensive advantage. There is one possible exception, World War I, and Van Evera milks it for all it is worth. There is, however, something methodologically suspect about using a case to prove a theory that grew out of a study of that very case.

Thucydides believed that states go to war for reasons of fear, honor, and self-interest. Van Evera apparently dismisses the third explanation; it appears nowhere in his hypotheses. Implicit in the overall argument is the assumption that states can never use war as a rational instrument to achieve political objectives. In fact, however, throughout history statesmen have found war preferable to other outcomes, and not merely due to misperception.

The book's final chapter, which discusses nuclear strategy, is the weakest—indeed, it seems out of place. It is a polemic against ballistic missile defense, and one distinguished by assertion rather than argumentation. Whatever one's view of national missile defense, there are thoughtful cases to be made on both sides of the issue. These are entirely absent from this book. What appears instead is a regurgitation of Cold War views about nuclear deterrence, arguments that are by now worn and frayed.

Thomas G. Mahnken
Naval War College

Sharp, W. Gary, Jr. *Jus Paciarii: Emergent Legal Paradigms for U.N. Peace Operations in the 21st Century.* Stafford, Va.: Paciarii International, 1999. 392pp. (no price given)

The recent conflict in former Yugoslavia provides an important vehicle for Gary Sharp as he explores the emergence of three international-law paradigms that will be critical to successful future humanitarian and peacekeeping operations. Sharp is an international law scholar and retired Marine Corps judge advocate whose previous books include the highly regarded *UN Peace Operations* (1995) and *CyberSpace and the Use of Force* (1999). He carefully presents legal arguments and rational supporting paradigms that afford peacekeepers greater legal protection, impose an obligation on all states to search for and arrest war criminals, and grant the United Nations, states, and peacekeepers a greater range of legal authority to use armed force for humanitarian intervention.

To prove these paradigms, Sharp reviews in parts I and II existing international-law protections for all military forces, details the evolution of UN peacekeeping operations, and examines the state practice that has most changed the international community's attitude toward its peacekeepers. This section concludes that military forces serving under the UN Charter, Chapter VII mandate—authorizing the use of "all necessary means"—should enjoy absolute immunity from any state against which the Security Council has directed coercive action. A draft protocol advocated by Sharp would, if accepted by the community of nations, protect all personnel who serve under the authority of the United Nations and make them unlawful targets under any circumstances.

In part III, Sharp examines the history of a state's obligation to search for and arrest suspected war criminals. Detailing the responsibility of states with respect to persons suspected of war crimes in Bosnia and Kosovo, he concludes that customary international law obliges all states to search for and arrest persons suspected of "grave breaches" in all territories in which they have been granted jurisdiction by international law.

Part IV is by far the most important, in the opinion of this reviewer. For the first time, a scholarly examination has been undertaken of the right of nations to intervene for humanitarian reasons when their own nationals are not at risk and no UN resolution authorizes military action. The determination by the United States to support a military response by Nato in Kosovo, despite the absence of the Security Council's approval, has been severely criticized in international legal circles as *ultra vires* (without

authority). Carefully reviewing the key issue of whether Nato can exercise its regional prerogative under Chapter VIII of the UN Charter (addressing the authority of regional organizations) and use all necessary means under Chapter VII without Security Council authorization, the author makes the case that state practice and customary international law have developed sufficiently to condone humanitarian intervention to prevent genocide and other widespread and arbitrary deprivation of human life in violation of international law. In Kosovo, moreover, the fear of the conflict's spreading into neighboring Nato states such as Hungary gave the alliance legal justification to use reasonable and proportional force in collective self-defense to contain the civil war within Serbia-Montenegro's borders. We may rightly conclude, with Sharp, that existing law and state practice permit a nation or a collective of states in a regional organization like Nato to use armed force to prevent genocide and other widespread abuses of human life within its regional boundaries, with or without Security Council authorization.

In this comprehensive volume, Sharp demonstrates through state practice that the international community desires to adhere to the principles embraced by the charter of the United Nations. He concludes that the international community must now embrace legal paradigms that embody and enable these principles.

However, this volume leaves for another day the resolution of the conflict between a nation's exercise of its *inherent* right of self-defense (beyond that provided by the UN Charter) *as judged by that nation* and the concomitant right of peace-enforcement units, operating under the aegis of the United Nations Security Council, to exercise their mandate free from obstruction in that nation's territory. Where these rights collide, there has historically been agreement that the forces involved in national self-defense would not be held liable and could not be prosecuted criminally, whatever the moral stature of their nation's cause. Under the peacekeeper-protection regime advocated by the author, however, all this could change; peacekeepers and peace enforcers would enjoy complete immunity from any attacks, whether in self-defense or otherwise made, when operating under UN authority.

This book's principled discussion of humanitarian intervention and the authority of regional organizations to exercise their power separate from Security Council approval makes it one of the most important legal treatises published in years. This volume is a welcome addition to the literature, and it will be considered a valuable

resource for every serious international practitioner.

JAMES P. TERRY
Colonel, U.S. Marine Corps, Retired

Yost, David S., *NATO Transformed: The Alliance's New Roles in International Security*. Washington, D.C.: United States Institute of Peace Press, 1998. 450pp. $19.95

For the student or policy analyst of European security, David Yost, professor of international relations at the U.S. Naval Postgraduate School in Monterey, California, has written an exceptional book. An expert on European security issues, he has an impressive academic background and has spent time in the world of policy making at the Pentagon (net assessments). With this work Yost does not simply provide a history of a post–Cold War Nato grappling to adapt to a world where the principal impetus for its existence—the Soviet threat—has passed. He offers a comprehensive account of the two new roles that Nato has assumed: cooperation with former adversaries and other non-Nato states in the Euro-Atlantic region, and crisis management and peace operations. As part of his investigation into cooperation with former adversaries, he presents a full analysis of Nato enlargement, an issue that drew much attention in 1998 and 1999 and is still pertinent today. In addition, Yost provides a full analysis of the implications of these new roles, especially regarding their relationship to Nato's first and continuing role: the collective defense of the territorial integrity of its member states. Thus this book is not only a recent, political-military, Euro-Atlantic history but also an analysis of current and future issues for policy makers within Nato states and, indeed, states aspiring to membership. Additionally, Yost, relying mainly on the scholarship of Inis Claude and Martin Wight, offers the reader the international political theory (collective security, collective defense, and balance-of-power politics) necessary to provide a conceptual and historical foundation for his analysis of current issues.

Yost's analysis is systematic, wide ranging, and compelling. He is fastidious in clarifying the issues and then presenting, in scholarly depth, their many sides before offering his own sense. In the opening pages he provides his thesis: Nato has two new principal roles, but its original function of collective defense remains paramount. The alliance has increasingly taken on collective-security activities on a selective basis. This raises three issues, the most important of which is how to reconcile the new roles (thus "devising positive synergy")

with Nato's original purpose. Yost argues that the allies "have little choice but to follow a two-track policy—pursuing collective security aspirations . . . while maintaining their collective defense posture and orientation." Collective defense persists as the only firm foundation for alliance cohesion and strength.

The abridgement of his thesis in the opening chapter is fully remedied in his last chapter, "Prospects and Challenges," in which he gives fuller expression to the logical end points of the analysis presented in the body of his work. For the researcher, the lack of a bibliography is a drawback, although full citations are offered in the endnotes. Yost might have enriched even more the depth and balance of his analysis by including more references to the many challenges Nato has faced and surmounted in its fifty-year history.

As a reference, this book offers a number of helpful features. Its four appendices contain the Nato Treaty, the Partnership for Peace framework, the founding act between Nato and the Russian Federation, and the charter of partnership between Nato and Ukraine. Two useful glossaries and a schematic help in clarifying and making understandable the many organizations and terms currently constituting the European security architecture. Two maps, contrasting the Euro-Atlantic region in 1988 and in 1998, are also supplied.

Yost began his research for this book in 1996–97 as a fellow at the United States Institute of Peace; his work continued until the spring of 1998. Yost's analysis of the issues is given weight not only by his scholarship but also by the quantity and quality of his primary and secondary sources, and by the many interviews he conducted on both sides of the Atlantic.

FREDERICK ZILIAN
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Eberstadt, Nicholas. *The End of North Korea*. Washington, D.C.: American Enterprise Institute Press, 1999. 191pp. $14.95

The End of North Korea provides a nuanced and accessible, if wordy, analysis of North Korea's economic situation and political behavior. Nicholas Eberstadt, a visiting scholar at the conservative think tank American Enterprise Institute (AEI) and a visiting fellow at the Harvard Center for Population and Development Studies, has been watching North Korea for many years. He has written a timely book that will be of particular interest to the policy community.

One of his major themes is that politics decisively dominated economics in North Korea in the past

and continues to do so today. Historically, this is visible in North Korea's ambition to unify the Korean Peninsula under its domination, and in the development of a unique form of socialism and a self-reliant economy *(juche)*. Eberstadt argues that until the late 1970s North Korea could reasonably think that an opportunity to unify the peninsula would come its way. South Korean economic growth did not take off until the mid-1960s, its politics were not stable until after 1979, and the U.S. commitment to its defense varied significantly. By the 1970s Kim Il Sung believed that after the unexpected failure of 1950, he had missed a chance to unify the peninsula in 1960; vowing to be ready next time, he tripled the size of the army and devoted much of the nation's resources to the military. The North Korean economy could not sustain this program of war mobilization without external support; the withdrawal of Soviet and Chinese aid in the early 1990s created a trade shock to which North Korea has not adjusted.

The economic collapse has precedents. Eberstadt examines North Korea's current economic situation by comparing it with the shorter but more intense mobilizations of the combatants in World War II; the trade shocks experienced by the American Confederacy, South Africa, Vietnam, Cuba, and Iraq; and the famines early in the communist regimes of the Soviet Union, China, North Vietnam, and Cambodia. In most cases, economic problems either were shorter in duration (war mobilization) or could be addressed by policy changes (trade shocks and famine).

What is different about North Korea is that its leadership has chosen not to make the policy adjustments that would generate economic growth and feed its people, for fear that economic changes would be politically fatal. Abandonment of the goals of unification and of North Korea's unique form of socialism, as well as exposure to the material incentives and contacts with the outside world that would attend economically rational development, would likely erode the political position of the North Korean leadership. Kim Jong Il has seen what happened to the Soviet Union when Mikhail Gorbachev attempted to liberalize the Soviet economy and political system, and the stresses that have accompanied China's economic reforms. So the regime, in Eberstadt's words, "avoids two-sided trade relationships and encourages one-sided tribute relationships by exporting insecurity." The future may be worse: one of Eberstadt's most interesting arguments is that the economic stasis of the North and the dynamism of the South mean that the two economies will grow

farther apart, thus increasing the difficulty and cost of their eventual integration. Eberstadt believes that Korea's situation will ultimately be better after unification, after which, he speculates in the last chapter, it will be peaceable, politically free, and market oriented. However, the author provides no warrant for this rosy prediction, and he does not consider alternative scenarios.

Can North Korean politics survive economic disintegration? This is a major question, because U.S. and South Korean policies seem to assume that the problem needs to be managed only until North Korea's imminent political collapse. Unfortunately, on this subject Eberstadt waffles, implying in the first five chapters that economic collapse does not necessarily cause political collapse but suggesting in the last chapter that it does. True, Eberstadt cannot consider reunification without presupposing collapse; however, without explicitly grappling with this question, he cannot address the title of his book. If states can endure economic collapse, Eberstadt has not made the case that the end of North Korea is in sight. Rather, we might expect that so long as the praetorians remain loyal, the economy will continue to muddle through, people will die of starvation, and the regime will remain in power. Failing a Gorbachev-like miscalculation about political and economic reform by Kim Jong Il or his successors, North Korea may be exporting insecurity and importing tribute for years to come. Contrary to the title, the end of North Korea may not yet be at hand.

CARMEL DAVIS
University of Pennsylvania

Varner, Joe. *Canada's Asia-Pacific Security Dilemma.* Halifax, Nova Scotia: Maritime Affairs. NIOBE Papers, vol. 10, 1999. 80pp. (no price given)

Haydon, Peter T. *Navies in the Post–Cold War Era.* Halifax, Nova Scotia: Dalhousie Univ. Centre for Foreign Policy Studies, 1998. 97pp. $10.50

Varner's *Canada's Asia-Pacific Security Dilemma* is a series of essays that discuss Canada's position in the rapidly developing post–Cold War order. It is also a call to the Canadian government to commit itself, through defense spending and diplomacy, to providing security for its interests in the Asia-Pacific region. Varner begins by presenting a snapshot of world powers as a new order evolves, marked by dwindling Russian influence and shifting U.S. interests. Painting a bleak picture of escalating instability and growing military spending among smaller

powers throughout the Asia-Pacific region, Varner offers a new concept of international struggle. He presents a convincing argument that as global oil, waste, and toxin spills threaten vital supplies of fresh water and fisheries, disputes over possession and rights may lead to armed conflict. Additionally, he contends that ethnic divergence, proliferation of weapons of mass destruction, terrorism, and the illicit drug trade will also significantly contribute to global instability, resulting in a fundamental shift from hegemonic expansionism to homeland defense. Based on these concepts, Varner reasons that the Canadian government must reaffirm its commitment to the 1994 Defence White Paper, which outlined military spending and its growth plans to provide combat-capable land, sea, and air forces in the twenty-first century. Recognizing current trends, insufficiencies due to aging weapons systems, incompatibility with the rapidly improving neighboring Nato systems, and airlift deficiencies, Varner fears that Canada will prove more of a liability than an asset in future combined peacekeeping task forces.

Varner's work is brief and to the point, yet very well supported. As a senior advisor for the Senate in Ottawa specializing in Canadian international security issues, Varner writes with credibility. He has military experience, and he is well educated in international affairs, with a master's degree in political science as well as a fellowship in the Inter-University Seminar on Armed Forces and Society. At the time he wrote this book, he was an intern at the Association of Universities and Colleges of Canada/Department of National Defence, sponsored by the Maritime Affairs Division of the Naval Officers' Association of Canada.

This book will be important for two reasons to government officials, military leaders, and professionals concerned about international security interests and trade. First, it succinctly outlines the history behind the political outlooks of the most influential and prevailing small and middle powers of the Asia-Pacific region. These are powers that could mature into formidable threats to global resources and regional interests. Second, it serves as a warning to prepare for a new nature of war. In a region of instability, which Varner compares to the Balkan unrest at the opening stage of World War I, with pressure from the guardian superpowers thinning and arms easy to procure, terrorism and weapons of mass destruction are becoming the venom of an unrestrained adolescent rattlesnake.

Haydon's *Navies in the Post–Cold War Era* is a collection of essays on the emerging role of maritime forces in the changing global environment. The collection is tailored

to address specific concerns within the Canadian government over the size, structure, and responsibilities of Canada's maritime forces in the twenty-first century. Haydon contends that the fundamental role of "acting as an extension of state policy over the seas" still applies to naval operations but that changes will manifest themselves in the way navies perform that function. Beginning with a general synopsis of customary naval tasking—to include support to the United Nations, gunboat diplomacy, implementation of diplomatic initiatives, and humanitarian relief—Haydon recommends a redefinition of the navy's mandate rather than force reduction. Rapid action and crisis management, he judges, will be characteristic of future operations; he points out the maritime strategic application of the UN secretary-general's *Agenda for Peace* of 1992.

Navies are ideal in this capacity because of their seaborne logistical support, flexibility, and symbolic value. Naval operations—having three broad dimensions, the diplomatic, military, and constabulary—will expand into multinational naval forces. These forces will need to train together so that they may prepare for global peacekeeping missions and beyond. But who will lead such a force? What nations have navies that are organized and trained well enough to participate? How would administrative and logistical support be handled? Is the UN willing to make the investment of time, effort, money, and other resources to support an endeavor of this magnitude? These are all questions that Haydon develops for the politicians to answer.

Haydon writes in a candid, straightforward manner that is easy to read and understand. His credentials are impressive, including thirty years of service in the Canadian navy and as a research fellow with the Center for Foreign Policy Studies at Dalhousie University. He has published several books on Canadian naval history and policy.

Although Haydon states in his introduction that the essays within have been made homogeneous, several concepts are restated verbatim, which can be a bit distracting. Nevertheless, his work strikes at the very heart of what is potentially the most complex future battlefield, that from the sea. His basic aim of crisis management in a maritime strategic application should be a primary concern of every littoral nation. Responsibility for maintaining global peace and reacting to aggression will become the primary concern for the international community as a new equilibrium is reached in the wake of the Cold War.

DAVID A. WILBUR
Major, U.S. Marine Corps

Richelson, Jeffrey. *America's Space Sentinels: DSP Satellites and National Security*. Lawrence: Univ. Press of Kansas, 1999. 329pp. $35

Jeffrey Richelson has written a thoroughly researched and comprehensive history of the development, fielding, operation, and evolution of the Defense Surveillance Program (DSP). DSP is the premier U.S. military space system for infrared surveillance, and it has been cloaked in secrecy for most of its forty-plus-year life.

This is a story with a lot of history. It takes us from the early days of the Cold War and the beginning of the space race to the present. It is a story about a high-stakes innovative concept, one with technological risk, developed to cope with a daunting nuclear threat. The program faced adversity at every step, but surprisingly it was an early success, its performance exceeding expectations. Richelson captures the flavor of the Cold War arms race, the advances in nuclear warfare theory and capability, the gradual thawing of the Cold War, and the emergence of the short-range or medium-range ballistic (now called theater ballistic) missile threat. The evolution of DSP is a moving story of the growing power and importance of space technology development. In the end, it is an interesting story of success, with a caution.

Richelson reminds us that DSP's beginning was tied to World War II and the advanced German rocket technology of that era. Captured by the United States and the Soviet Union late in the war, rocket technology was vital to the development of the intercontinental ballistic missile and the space age. With the advent of nuclear-weapon payloads, the United States entered the Cold War and the chilling nuclear impasse with the Soviet Union. Space-borne warning of rocket launches by detection of infrared signatures was a new technological concept, fraught with concerns about sensor systems, cost, performance, and feasibility. That DSP nevertheless was fielded was a remarkable achievement.

DSP was designed initially to provide early warning of long-range ballistic missile attack, but rocket and payload combinations improved, just as the evolving missile threat demanded more timely and precise performance. The theme of "mission creep" enters the story at this point. Once a purely strategic sensor, it came to be used for tactical warning of launches of short and medium-range ballistic missiles, such as Scud. The result has been a heavy demand for precise DSP performance. The numerous ballistic-missile events conducted by North Korea, Iran, Iraq, and the USSR (now Russia), not to mention several Western allies

(not all for peaceful purposes), have made DSP data a high-demand commodity. Richelson points out that DSP has observed ballistic missile attacks on Afghanistan, Iran, Iraq, Israel, and Saudi Arabia in the 1990s alone.

This is, however, a cautionary tale. Richelson's arguments are convincing that the threat of missile attack continues to grow and along with it the demand for quicker and more certain warning. He notes the irony that DSP has itself become a significant programmatic "rice bowl" and that consequently the development of a successor has been muddled by numerous false starts. Richardson makes a clear case that the community of DSP users and stakeholders has grown to almost unmanageable size and that therefore consensus on performance and cost is elusive. He points out the lingering support for an upgraded DSP, but he argues that DSP is past being optimized and that a more capable system is needed, and soon. He lists the sordid histories of numerous failed contenders; the current one, the Space-Based Infra-red System (SBIRS), appears to be on a path to success.

There is no shortage of detail in this work, which can be problematic. It interferes with the flow of the story. Flight-by-flight chronologies of every satellite, and each position of every satellite, are provided; such detail would have been better relegated to the appendices. On the plus side, there are extensive appendices on system design and operation.

In sum, Richelson has written a winning book that is strongly recommended to the student of the military space age. It also provides lasting lessons to the military force planner.

DOUGLAS THOMPSON
Captain, U.S. Navy

Hunter, Robert W., with Lynn Dean Hunter, eds. *Spy Hunter: Inside the FBI Investigation of the Walker Espionage Case*. Annapolis, Md.: Naval Institute Press, 1999. 250pp. $27.95

Herrington, Stuart A. *Traitors among Us: Inside the Spy Catcher's World*. Novato, Calif.: Presidio, 1999. 409pp. $27.95

The enormity of the actual and potential losses to the United States due to the undiscovered treason by John A. Walker, Jr., Clyde Conrad, James Hall, and their colleagues is deftly told in these two exciting and disturbing books. Detecting treason in the United States is a daunting and unending task. The urgent message of both books is that of the need for constant vigilance by all with access to U.S. secrets. Nowhere is that message more critical than in our military,

where, the authors state, it had been tragically ignored for too long.

Robert Hunter, a now-retired FBI foreign counterintelligence agent who at the time was assigned to the Norfolk, Virginia, field office, was the lead investigator for the Walker spy case. He is a talented storyteller. He begins his fascinating narrative in late 1984, when John Walker's former wife telephoned the Boston office to reveal that her divorced husband had been selling secrets to the Soviets for nearly nineteen years. The FBI followed up on that call with an investigation into Walker's naval career, from his days as a radioman in 1955 through his promotion to chief warrant officer and his subsequent retirement from the Navy in 1976. Hunter takes the reader on the arduous and urgent hunt, which led across the nation and overseas. The result was the identification of an espionage ring that probably included John A. Walker, Jr.; his son, Seaman Michael Walker; his brother, retired lieutenant commander Arthur James Walker; and his "best friend," Jerry Whitworth, a retired senior chief petty officer.

Early in the investigation, a preliminary assessment of the damage done by Walker was made by the National Security Agency. It concluded that "if these people gave the Soviets the information they had access to, the damage will be not only grave, it will be catastrophic."

The FBI's exhaustive telephone and "eyeball" surveillance of John Walker resulted in its discovery of highly classified documents taken by Walker's son Michael from his ship for delivery to his father's Soviet contact at an isolated drop site in the Maryland countryside. Once the FBI had evidence of his treachery, Walker's career as a spy was finally about to come to an end. Walker's arrest was the result of an exhaustive search of his home, where a "mother lode" of espionage paraphernalia, given to him by his handlers over many years, was found, as well as copies of classified Navy documents that had already been delivered to his contacts. Examination of the seized documents finally led to the arrests also of Whitworth, Arthur and Michael Walker—all the members of the Walker ring. During the lengthy preparations for their trials, John Walker and his son entered guilty pleas. John and his brother were each sentenced to life imprisonment, Jerry Whitworth was sentenced to a total of 365 years, and Michael Walker was given a sentence of twenty-five years.

The enormous damage to the security of the United States by these four men was highlighted in John Walker's sentencing affidavit, composed by Rear Admiral William Studeman, then Director of Naval Intelligence, who bluntly stated: "The KGB considered the Walker-Whitworth operation to be the

most important operation in the KGB's history. This certainly ranks this Soviet intelligence operation as one of the greatest espionage successes in intelligence history. We have little confidence that we understand the full extent and scope of the Walker conspiracy and the damage they have done."

Stuart Herrington, for thirty years an Army intelligence officer, treats the reader to a truly remarkable look at the "silent war" waged by Army counterintelligence against the Soviets and their surrogates and allies in Western Europe. He describes the divided city of Berlin as it was in 1985, "the world's undisputed capital of espionage," filled with military and civilian intelligence-collection personnel from both sides of the Iron Curtain. Herrington's unit's mission was to "detect and foil the attempts of our communist adversaries to turn American soldiers into traitors." The scope of that challenge and the difficulties fulfilling his mission are richly told.

The book rivals the best Cold War espionage fiction. It is a fast-paced story of "teamwork and cooperation between counterintelligence agents of the United States Army, the Central Intelligence Agency, and the Federal Bureau of Investigation," who "collaborated closely with German, Swedish, Austrian, and Italian security officials to unmask traitors among us who were selling top secret plans for the defense of Europe." Herrington asserts that the enormous scope of the treasonable thefts and disclosures of highly classified documents "was so voluminous, so sensitive, and so strategically advantageous to Moscow that, had war broken out in Central Europe, America and her NATO allies would have been forced to choose between capitulation or the desperate use of nuclear weapons on German soil."

The reader is first introduced to Soviet penetration efforts directed against an American signals intelligence site in West Berlin that was then the KGB's top-priority Berlin target. Herrington describes how a Soviet effort to recruit an American sergeant was foiled. The sergeant, who was having financial problems, had been approached by Soviets offering an "attractive business proposition," which he immediately reported to his superiors. Herrington's group then baited the Soviets for six months until they were finally trapped in a meeting with the courageous sergeant. Although the KGB officers were quickly released to their superiors, their apprehension was a significant victory in the "silent war" in Berlin.

In August 1987, Herrington assumed command of the Army's elite Foreign Counterintelligence Activity (FCA), based at Fort Meade, Maryland. Its task was to control extremely sensitive counterintelligence operations worldwide. Those

daunting investigations are the major focus of his book.

In the late 1970s, Moscow sources informed the CIA that an American with access to U.S. war plans was regularly delivering information to the Hungarian military intelligence service, which in turn was sharing the documents with the Soviets. The sources further advised that "the Hungarian penetration was regarded as the most lucrative espionage success in Europe since the end of World War II." The identity of the spy, whose operation reportedly had lasted for many years, was unknown to the informants, but if they were correct, "NATO's ability to defend Western Europe against the Soviets and their Warsaw Pact allies was in jeopardy." The disclosures "led to what would ultimately become the longest running, most sensitive, most tightly compartmented, and costliest counterintelligence investigation in history."

The quest to uncover the identity of the American spy was stymied for several years by a paucity of investigating agents and by the need to protect the investigation and the identities of sources. The investigation was revived in March 1985 with the appointment by CIA director William Casey of a new head for the agency's counterintelligence staff, Gus Hathaway, former chief of station in both Bonn and Moscow. He and the Army's senior intelligence officer, Lieutenant General William E. Odom, breathed new life and urgency into the critical investigation. The CIA and the FCA refocused their efforts. Herrington details the painstaking process by which both organizations constructed a "profile" of potential suspects and winnowed countless Army assignment lists for those with access to the war plans. They were finally led to Germany and a retired sergeant first class, Clyde Lee Conrad.

Herrington traces the challenges Hathaway faced in bringing Conrad to trial before a German court, where Conrad was convicted and sentenced to life imprisonment. In passing sentence, the German judge stated in part that "the espionage of the accused must be assessed as the most significant, and for the West the most crippling, since the Second World War. The accused stands at the top of the worldwide list of all known spies."

Herrington also skillfully details the equally disturbing six-year-long espionage career of a U.S. Army warrant officer, James W. Hall. Both authors question how the United States could have allowed treachery of such magnitude to go undetected for so many years.

While the sharp conflicts of the Cold War may have passed into the history books, espionage directed at the United States continues unabated. Both books ably discuss

painful lessons. Whether those lessons will be heeded remains to be seen.

ROBERT G. SULLIVAN
Captain, U.S. Naval Reserve, Retired

Christman, Al. *Target Hiroshima: Deak Parsons and the Creation of the Atomic Bomb*. Annapolis, Md.: Naval Institute Press, 1998. 305pp. $32

The roles of J. Robert Oppenheimer, Leo Szilard, Leslie Groves, Paul Tibbets, and other participants in the creation and use of the atomic bomb have been well documented in a host of articles and books concerning the Manhattan Project. Even relatively minor players (such as Louis Slotin, who died of a radiation overdose in a criticality accident) are known to us through fictionalized versions of the popular movie *Fat Man and Little Boy*. In these and other accounts, a uniformed naval officer appears briefly, and we have wondered, who was that man? Al Christman, who was the historian for the Naval Weapons Center, China Lake and for the Navy Laboratories of the Naval Material Command, presents an in-depth biography of that man—Captain William "Deak" Parsons. Deak Parsons, ordnance expert and associate director of Los Alamos, provided the practicality that turned the physicists' creation into a deliverable weapon.

Christman portrays Parsons as the complete naval officer, subordinating his personal aspirations for more glamorous operational assignments in order to do what his country required. Deak Parsons was rare: a scientist, engineer, and military man who combined detailed technical expertise with the leadership abilities of a seafaring line officer. He exemplified the close professional partnership that existed during World War II between the nation's scientists and its military.

Al Christman believes that Parsons was uniquely qualified to bridge these two cultures. He had been involved in the development of radar and the proximity fuse, and he had been crucial in making them operationally useful. He was the "atomic admiral" who provided technical direction to Operation CROSSROADS, the postwar series of nuclear weapons tests that changed the atomic bomb from a test bed into a weapon.

Parsons's last shipboard assignment prior to America's entry into the war was in 1939, as gunnery officer on board the USS *Detroit*, flagship of the commander of destroyers of the Pacific battle force. Shore duty came next, at the Naval Proving Grounds, Dahlgren, Virginia, and at the Applied Physics Laboratory in Silver Spring, Maryland, where he made possible the introduction of the proximity fuse

for combat use. By 1942 he thought he had paid his dues and would be sent to sea, duty for which he was long overdue. If he had had his choice, Parsons's next assignment would have been as executive officer of the light cruiser *Helena*. Instead, the president's science advisor, Vannevar Bush, drafted him into the atomic bomb project. On 5 May 1943, Parsons received a call to report to Admiral Ernest King, Commander in Chief, U.S. Fleet. King dashed Parsons's hopes for wartime sea command. King told him that the services of an ordnance officer were needed to supervise the production of an atomic bomb. Like the military leader of the Manhattan Project, General Leslie Groves, Deak Parsons put aside his personal desire for combat duty to make greater contributions to the total war effort—helping to create "a perfectly functioning atomic bomb that could end the war."

In today's climate, where lip service to "technology" is often given by many who themselves lack the detailed knowledge needed to participate in its development, the example of Parsons, with his expertise, should stand as a model for officers. Parsons did his duty, sacrificing "careerist concerns."

Al Christman has done his homework, synthesizing the results of research from recently released Manhattan Project records with personal interviews, conducted over thirty-plus years, of prominent World War II scientists and officers. *Target Hiroshima* is a "must read" for those who wish to understand the role of a military officer in technological innovation.

XAVIER MARUYAMA
Monterey, California

Kimball, Warren F. *Forged in War: Roosevelt, Churchill, and the Second World War*. New York: William Morrow, 1997. 422pp. $16

Some casual readers of World War II history have the simplistic notion that the Anglo-American alliance was a natural, inevitable coalition against the evils of Hitlerism and that following America's belated entry into the war, the Anglo-Saxon powers, with a bit of help from the Soviet Union, were foreordained to defeat Nazi Germany. In this view, these nations formed a noble, almost selfless alliance dedicated to the unconditional defeat of a monstrous regime that could not be allowed to survive.

The reality was, of course, much more complex. Far from sharing a unified view of the war, each of the three allied nations had its own divergent national interests and imperatives throughout the war. Most readers are aware of the divergence between the Soviet Union on the

one hand and the Western allies on the other. Fewer are aware of the deep differences that divided Great Britain and America.

The relationship between the Anglo-Saxon powers had, broadly, three phases. The first phase ran from the summer of 1940 until Pearl Harbor (7 December 1941), months in which an anxious America provided increasing logistical and diplomatic support to Britain. It was by no means clear that Britain would remain in the war after Dunkirk. The United States faced the difficult choice between providing scarce resources to a losing cause and ultimately facing a hostile Europe alone. Less than full U.S support during that desperate time, on the other hand, did not sit well with Britain. Prime Minister Winston Churchill stated privately that the Americans were "very good in applauding the valiant deeds done by others." When Americans slowly realized that Churchill would survive politically and that the British would be in it for the long haul (the ruthless British attacks on the French fleet in July 1940 and survival in the Battle of Britain were key), the United States increased its support accordingly.

In the second phase, from 1942 through early 1943, victory remained in doubt (or so thought the protagonists). There were deep disagreements on strategy between the U.S. and Britain. The United States argued forcefully for an early cross-Channel invasion in 1942, which the British rightly viewed as unrealistic (as the initial combat engagements with the Wehrmacht had surely demonstrated). British reluctance fueled American threats to shift significant resources to the Pacific theater if they were not going to be used aggressively against Germany. Underpinning all U.S.-British debates was the constant worry that Germany would either defeat the Soviets before American industrial and military potential could be brought to bear or that Stalin, who was deeply mistrustful of the Western allies, would negotiate an end to the war on the Eastern Front. Severe shipping losses in the Atlantic (which at one point caused the suspension of Lend-Lease shipments to Russia) through early 1943, the dismal British military performance in North Africa and the Far East, and Soviet awareness of deep anticommunist views on the part of senior American and British political leaders (Senator Harry S. Truman suggested hopefully that Germany and Russia would bleed each other to death) all influenced the dynamic calculations each ally made concerning the amount and nature of the cooperation necessary for eventual victory over Germany. Issues in the Far East were left for less desperate times.

After early 1943, in the third and final phase of the war, it was clear that Germany and Japan would

lose. Britain and America now could afford to pay closer attention to how the postwar world should look. Since intensity of cooperation within an alliance varies with the level of mutual need, Anglo-American frictions increased, and divergences in their outlooks and interests became more apparent. The United States opposed the restoration of the prewar European colonial systems, while British policy was "Hands Off the British Empire." Britain was already actively concerned with postwar European balance-of-power issues, especially about how to deal with the Soviet Union. America, however, under President Franklin D. Roosevelt, intended to rely on great-power cooperation through international treaties and organizations (like the future United Nations) as the basis for maintaining peace. America and Britain strongly disagreed over how to resist Soviet influence in eastern and southeastern Europe, even while each was engaged in separate discussions with Stalin. The postwar bitterness over the 1945 Yalta agreements and their aftermath suggests how great the divergence between American and British views became late in the war.

Throughout this book, Kimball shows the extent to which the relationship between America and Britain was a close reflection of the personal relationship between Churchill and Roosevelt. Early mutual underappreciation and private Churchillian bitterness and frustration over Roosevelt's apparent reluctance to commit America against Hitler gave way to an intimate partnership once the United States entered the war. Yet as national interests diverged toward war's end, their close personal bond that had developed during the war's most desperate years so deteriorated that Churchill chose not to attend Roosevelt's funeral. Still, as Kimball concludes, "But almost always, when faced with crucial choices about victory versus postwar political advantage, Roosevelt, Churchill, or both made the decision to keep the Grand Alliance together and to defeat the Axis."

The Second World War is thoroughly plowed ground. However, *Forged in War* is an outstanding, highly readable, single-volume account of the complex political and strategic issues with which Roosevelt and Churchill dealt. Readers at all levels will find it worthwhile.

Warren F. Kimball, a professor of history at Rutgers University, has spent his career studying both Churchill and Roosevelt. His three-volume *Churchill and Roosevelt: The Complete Correspondence* (Princeton University Press, 1984) is a basic source for period scholars.

JAN VAN TOL
Captain, U.S. Navy

Norman, Elizabeth. *We Band of Angels: The Untold Story of American Nurses Trapped on Bataan by the Japanese.* New York: Random House, 1999. 272pp. $26.95

The nation was done a tremendous service when Elizabeth Norman crafted this sensitive and insightful narrative of quiet and enduring heroism. *We Band of Angels* brings to our attention the experiences of nearly a hundred female soldiers and sailors who up to now have, for the most part, been neglected.

We could view their experience as unique, groundbreaking, extraordinary, even tragic. However, any of these perspectives would be unfair to the people we meet in this, Norman's second book. (Her first was *Women at War: The Story of Fifty Nurses Who Served in Vietnam,* 1990.) The "angels" in her title are the nurses who served in World War II; however, they still view themselves as simply having done their parts in the struggle. They are not interested in special attention or in their unintentional roles as prisoners. Their heroic contributions are enhanced by their belief that they were part of a larger, more important effort. Their courage is all the more remarkable in light of their collective self-assessments of the Japanese misdeeds against them in China, especially Nanking (see Iris Chang's superb research on this topic).

The story of each woman comes alive from beginning to end: the onset of the war, each nurse's decision to join the military, and the successful Japanese campaign on Luzon. The poignant losses of comrades during the conflict heighten the drama.

General Jonathan Wainwright, in command in the Philippines after the departure of General Douglas MacArthur, carefully considered his options for the Army nurses on Bataan. They were taken to Corregidor, and some were evacuated. However, regrettably, eleven nurses were left behind. They were the first to be taken prisoners of war.

The nurses' nickname for MacArthur was "Dugout Doug." The betrayal felt by these women when he left was remarkable. Those who managed to escape to Australia were very public in their criticism of him. The rest were captured, taken from the hospital into the jungles of Bataan Peninsula, on to Corregidor, and finally to internment camps. Malnutrition and malaria, always a threat, became almost inescapable during captivity. Anecdotal references to the Bataan Death March and the Los Baños raid provide depth and texture to the narrative.

Perhaps the most frustrating issue for the women after the war was caused by those who admired them most. Focusing on the nurses' womanhood rather than on their roles in the military, these people trivialized their war efforts. They could not possibly understand what the war had meant to the nurses,

or the situations they had been forced to confront. It is a problem not unlike what women in the armed forces struggle with today.

There is one notable slip in this otherwise exceptional book—stereotyping. While praising the remarkable women of World War II, Norman tells us that "a man's notion of honor was driven by ego, a woman's by an inviolable sense of self built on the sentiment of sacrifice." I must say that when I was commanding officer of a naval station, I found no discernable difference in the character of my sailors based upon any demographic variable, let alone gender. In fact, both types of honor were demonstrated by both genders. Perhaps the author allowed a bit of understandable romanticism to creep in.

This is a powerful story of raw courage. It speaks to who we were as a nation in the early 1940s and to who we became when our collective character was measured. The book also makes clear that during the war Americans usually rose to meet challenges wherever they found them. Meeting our challenges today is the best way to honor the sacrifices and achievements of the men and women who wore the uniform before we were born.

JOHN N. PETRIE
Captain, U.S. Navy

Miles, Wilma Jerman. Edited by Charles H. Miles. *Billy, Navy Wife.* Chevy Chase, Md.: privately published by Charles H. Miles and Murray Miles, 1999. 587pp. $25

Billy, Navy Wife is the autobiography of Wilma J. Miles, wife of Vice Admiral Milton E. Miles, for whom the Naval War College's Milton E. Miles Chair of International Relations is named. This book begins in 1904, the year of Wilma Miles's birth, and it ends in 1961, the date of her husband's death. An epilogue written by her sons, Charles and Murray, contains an account of their mother's activities and travels until her death in July 1996. Vice Admiral Joseph Metcalf III provided the foreword. In the introduction, Wilma Miles tells why she wrote her story: to inspire and encourage young Navy wives who must cope with their husbands' long absences and with economic privations, to recount her own life experiences in a smaller and less technologically complex Navy, and to laud the unsung fraternity of Navy wives who play a part (albeit indirect) in all that the Navy does.

By all indications, Wilma Miles's life was an extraordinary one, marked by adventure; travel to exotic places; social contacts with royalty, heads of state, and diplomats; strong family ties; and loyalty to her husband and to the U.S. Navy. She saw herself first and foremost as a Navy wife, as a

helpmate and partner to her husband in his career—but she was much more. Wilma wrote, "[A] Navy wife couldn't really advance her husband in his career, but . . . as sure as Christmas, she could hold him back."

Wilma met her husband when she was fifteen years old and married him in Hong Kong in 1925 at the age of twenty-one (not having seen him for three years), to be left alone for the greater part of the next two years while he cruised the West and Pearl Rivers in the gunboat *Pampanga*, chasing pirates and protecting missionaries. Always eager to travel and learn about other cultures and people, Wilma and Milton, during his leaves, visited Canton, Peking, and Macao, attempted to learn Chinese, and became fascinated by the Far East. When they returned to Chefoo in 1936 for a three-year tour of duty, she continued her travels, while Milton served in the destroyer tender *Black Hawk*, and then as commanding officer of the destroyer *John D. Edwards*. In 1938, she traveled alone throughout the Dutch East Indies and Southeast Asia, photographing the harbors. Her photographs, the only ones available at the time, proved to be invaluable to the U.S. Navy at the beginning of World War II—unwittingly, she had aided the war effort. The Mileses were the first Americans to exit China over the Burma Road in 1939. The journey took a week, and Wilma recorded it in detail, as well as her travels through India, Afghanistan, Iran, and Iraq—including the couple's arrest in Mashad for photographing the city. This was the first of their six arrests in foreign countries.

During World War II, Milton Miles was stationed in China for three years as head of the Sino-American Cooperative Organization (SACO), which was involved in intelligence work and weather forecasting in preparation for an American invasion of the mainland. Wilma, who had received a master's degree in home economics from Columbia University in 1929, spent the war years in Washington, D.C., where she served as head of the nutrition services for the Red Cross and taught classes. When the war ended, she continued to teach nutrition, edited a monthly newsletter, lobbied for school lunches, helped popularize skim milk as healthful, and appeared on one of the first cooking shows on television. She maintained a lifelong interest in nutrition education.

In 1954 Milton Miles went to Panama as commanding officer of the Fifteenth Naval District for a two-year tour of duty. He and Wilma traveled throughout South America, where they made three harrowing and dangerous transcontinental treks through jungles in search of an alternative canal route. Whether having tea with

Anastasio Somoza or traveling by bus through Bolivia, Wilma was always interested in experiencing to the fullest the culture, language, historic sites, and people of each country. Her descriptions of the places she visited read like travelogues, with full historical background provided.

Wilma Miles was a Navy widow for thirty-four years, during which time she was instrumental in the publication of *A Different Kind of War*, the story of SACO, which she had researched and compiled with her husband after his retirement. She traveled, worked, attended SACO reunions, and deposited her personal papers and extensive photograph collection in the U.S. Naval War College archives.

This book is illustrated with Miles's trademark—the "What the Hell?" pennant—as well as signature whales and pencil sketches. Readers interested in the life of an independent, courageous, and intrepid Navy wife of the "old Navy" will find this personal story enjoyable.

EVELYN M. CHERPAK
Naval War College

Hone, Thomas C., Norman Friedman, and Mark D. Mandeles. *American & British Aircraft Carrier Development, 1919–1941*. Annapolis, Md.: Naval Institute Press, 1999. 248pp. $39.95

Working from the premise that a truly revolutionary military innovation is one that changes an armed service as an institution, *American & British Aircraft Carrier Development, 1919–1941* studies how two such institutions, the American and British navies, incorporated naval aviation, and also why airpower developed very differently in those fleets. It is a social analysis, not a design or tactical history. Although published more than six decades after the events, this book provides notable new insights and highlights. The authors, all naval experts, collaborated in finding whether the development of the aircraft carrier before World War II offers parallels for how military services might capitalize today on high-speed networks and miniature sensors.

The book is particularly interesting in its revelation that issues more fundamental than uncooperativeness on the part of the Royal Air Force (RAF) weakened tactical aviation in the Royal Navy. After the transfer in 1918 of most naval aviation personnel and all aircraft to the RAF, neither service's personnel saw sea-based aviation as a good career path. No internal organization turned innovative aviation tactics into correspondingly sound technical decisions about ships, aircraft, or air defense weapons. Anticipating frequent bombing attacks

from land bases (and accustomed to operating in heavy northern seas, a factor not discussed in this book), the British stored all aircraft under short and usually armored flight decks. Holding flight decks empty resulted in slow flight-deck cycles that kept only a few aircraft actually aloft. Designed (though rarely procured) for catapult launch from dispersed cruisers and battleships, British naval strike aircraft sacrificed airborne performance for low take-off speed. These restrictions and the lack of institutional career incentives left the prewar Royal Navy with weak aircraft, small air wings, and few replacement personnel.

The authors observe that both organizations and individuals were influential within the U.S. Navy. Cooperation among the Naval War College, the Bureau of Aeronautics, and innovators in the fleet was the most important factor in the maturation of U.S. Navy carrier airpower. The 1920s Naval War College gaming models showed the potentially high payoff of a large airborne "pulse" attack to cripple enemy carriers and thus achieve decisive air superiority. Naval aviation proponents convinced Congress that the Hugh Trenchard–"Billy" Mitchell vision of an aviation corps was an error. Assigning long-range patrol to seaplanes, the U.S. Navy, through its Bureau of Aeronautics, also devised specialized carrier-based combat aircraft, including high-powered fighters, to defeat land-based aircraft. U.S. naval aviation could capitalize on the wartime development of radar and long-range at-sea logistics to operate as a mobile, strategic attack force.

Under financial and treaty restrictions, neither of these prewar navies had enough aircraft carriers to develop massed-carrier doctrines, either offensive or defensive. Neither navy developed coordinated air and surface tactics. It is possible that the Royal Navy could not have afforded anything much better than what it actually had; the authors observe, however, touching on Japanese naval aviation, that heavy investment by itself was insufficient. Once reconstituted, the Fleet Air Arm after World War II developed angled decks and steam catapults. Those successes support the authors' contentions about the importance of functioning organizations and the development of evidence, since previously the Royal Navy had followed prominent individuals' initiatives on faith.

The authors conclude that new technology did not dictate a single or obvious path to success: top-down "vision" about military aviation failed. Learning by doing worked: "We believe that the capacity to learn operational and organizational lessons in the course of daily operations was and is a major means of reducing risk." Existence of a threat or rival against

which to measure performance was an important impetus; an "organization or process to connect the technical branches with their operational counterparts" was essential. It will be interesting to see how well these useful lessons are put into practice in today's military.

MICHAEL C. POTTER
Captain, SC, U.S. Naval Reserve

Meilinger, Phillip S., ed. *The Paths of Heaven: The Evolution of Airpower Theory*. Maxwell Air Force Base, Ala.: School of Advanced Airpower Studies, 1997. 650pp. (no price given)

From dirigibles to stealth bombers, the theory and practice of airpower are distilled in this anthology's fifteen thought-provoking essays by thirteen practitioners and students of military aviation. *The Paths of Heaven* traces the development of airpower doctrine and strategy from before World War I through DESERT STORM and beyond. Of necessity, many of the subjects are familiar to aviation history buffs, but the depth of scholarship evident in each essay will not only educate but entertain most readers.

The editor and author of three articles is Colonel Phillip Meilinger, Ph.D., a former C-130 pilot and previously the dean of the School of Advanced Airpower Studies. His operational background and academic credentials are matched by those of several other contributors. As a result, the book reflects hands-on knowledge of airpower, in addition to historical and doctrinal perspectives.

The book's organization is largely chronological. Meilinger looks at Giulio Douhet, Hugh Trenchard, and Alexander de Seversky, while Lieutenant Colonel Mark Clodfelter assesses William "Billy" Mitchell—thus the most influential airpower exponents and advocates are assembled in this one volume. Latter-day air strategists John Boyd and John Warden are addressed by Lieutenant Colonel David Fadok.

Beyond the key personalities of airpower doctrine, topical contributions include those of David Mets, with coverage of aviation influence in the U.S. Navy, and Lieutenant Colonel Peter Faber, in a review of the interwar Air Corps Tactical School. Contemporary European views are provided by James Corum. Cold War perspectives are examined by Karl Mueller (airpower and nuclear strategy); Dennis Drew (low-intensity conflict); Harold Winton (joint U.S. Army and Air Force operations following Vietnam); Colonel Buster McCrabb (Nato air doctrine); Lieutenant Colonel Edward Felker (Soviet aviation theory); Major Bruce DeBlois (airpower and space power); and I.

B. Holley (the continuing search for an airpower theory).

Among the most revealing upshots of these essays is the interdependence of the early theorists. Douhet, who began thinking about airpower in 1908, was not well known outside Europe until the 1920s. (He spent a full year of the Great War in prison for his nonconformist views, but he was fully vindicated afterward and promoted to general, though he declined to return to active duty.) His influence on Mitchell and de Seversky was profound. Meilinger makes a strong case that the two Americans were more effective proselytizers than prophets (though both made uncannily accurate predictions) and that both fell wide of the mark in some ways. A spectacular film by de Seversky, animated by Disney and based on his best-selling *Victory through Airpower,* envisioned a huge bomber force destroying Japan from Alaska. Anyone who has flown in the Aleutians—arguably the worst aviation weather on earth—will marvel at the major's reasoning.

Apart from Mets's chapter on naval aviation, the book's perspective is understandably Air Force oriented. That fact undoubtedly accounts for statements that are accurate only within a land-based framework. For example, Meilinger states that the Battle of Britain remains the only clear-cut defensive air victory; in fact, the fast carrier task forces' defeat of the kamikazes in 1944–45 was a campaign lasting twice as long as the 1940 battle, covering vastly more territory and fought from bases infinitely more vulnerable than even Fighter Command's grassy fields. Additionally, F-86 counterair operations in Korea scored a defensive success, in that they ended almost entirely Communist air attacks south of the Yalu.

Naval readers will be interested in some of the "prophets'" wavering attitudes toward aircraft carriers. Mitchell, for instance, supported the Navy's experiments with USS *Langley* (CV 1), but he reversed helm when more effective ships and aircraft emerged. So did de Seversky, who was at least as antagonistic to the Navy as Mitchell—a supreme irony, considering that de Seversky's own czarist navy (de Seversky, a native Russian, had served in the Russian naval air service until 1918) had matched the world in use of seaplane carriers.

The Paths of Heaven offers much more than can be described here. Suffice it to say, this volume will provide hours of compelling reading for any sailor or airman concerned with the use of the sky.

BARRETT TILLMAN
Mesa, Arizona

Vego, Milan N. *Austro-Hungarian Naval Policy, 1904–14*. Portland, Ore.: Frank Cass, 1996. 202pp. $47.50

Although Austria-Hungary and Italy had both been members of the Triple Alliance before the outbreak of World War I, the two powers became rivals for supremacy in the Adriatic Sea. According to Milan Vego, the Dual Monarchy increased its naval construction to match Italy's, thus prompting Rome to enlarge its navy to preserve superiority over its ally. Therefore, the Italian fleet became "the yardstick by which the strength of the Austro-Hungarian navy was measured." Nonetheless, the two powers coordinated naval efforts in the Mediterranean Sea to benefit Germany, the remaining member of the alliance. Germany hoped that the combined Austro-Italian fleet would force Britain to divert part of its fleet from the North Sea, where it posed the larger threat, whereas Italy required Austria-Hungary's aid to counter French strength in the western Mediterranean. Although the Habsburg monarchy had no vital interests in the Mediterranean, it expanded its fleet there in the interest of its allies, by building dreadnoughts. Control of the Adriatic, however, was important to the Dual Monarchy, to prevent it from becoming a landlocked power.

Other external and internal factors affected the Habsburg naval policy. Austria-Hungary's annexation of Bosnia in 1908 damaged its relations with Serbia but enhanced its position in the Balkans, thus necessitating an expansion of its navy. Austria-Hungary opposed Serbia's gaining a port on the Adriatic Sea that the Russian fleet could use to strengthen its own position. Italy acquired Libya and occupied the Dodecanese Islands during the Turco-Italian War, improving its status on both shores in the central Mediterranean. Italy determined that naval cooperation with its allies presented the only opportunity to stop French expansion in the region. The subsequent renewal of the Triple Alliance Treaty in 1912 accepted Italy's territorial acquisitions and Austria-Hungary's stand in the Balkans. Nevertheless, their competing interests in Albania remained and contributed to the adoption of Austria-Hungary's latest ship-construction program. Internally, the Dual Monarchy's constitutional arrangement required the approval of the Hungarian delegation for naval expansion. Hungary, therefore, could demand additional petty officers, larger participation by its industries in construction, and increased use of the Hungarian language. Austria's weak finances further constrained its naval budget, and lack of popular support hampered the government's efforts. Archduke Francis Ferdinand, the heir to the throne, however, praised naval expansion as necessary if the

empire was to take its place as a maritime power, while he harbored distrust of Italian commitment to the alliance.

Twelve years of active service in the former Yugoslav navy sparked Vego's interest in the naval history of the Austro-Hungarian Empire. Vego, professor of operations at the U.S. Naval War College, conducted his research in Austria and Washington, D.C., but relied primarily on published works for documents from other European powers. My only serious criticism of this work is the omission of maps; two are not sufficient. Even a reader familiar with Austro-Hungarian history needs visual aids showing the specific locations of port cities and areas in dispute in the Turco-Italian War and the Balkan crises.

The title *Austro-Hungarian Naval Policy, 1904–14* is misleading, for this work offers much more. It provides an excellent overview of not only Triple Alliance naval policy but also its effect on the Triple Entente's strategy. Vego addresses as well the politics within the alliance and Germany's dominant role. London understood Vienna's dreadnought construction as a response to Berlin's demands and thus viewed the Dual Monarchy as a German tool, just as it would during World War I. This monograph presents a background of events that contributed to the outbreak of war in 1914, by describing the crises in the Balkans and the Turco-Italian War. Any reader interested in early twentieth-century European history generally and naval policy specifically should read this work.

CAROL JACKSON ADAMS
Salt Lake Community College

Gleick, James. *Faster: The Acceleration of Just About Everything*. New York: Pantheon, 1999. 324pp. $24

James Gleick's book points to the fact that the human condition is moving at a speed that sometimes makes us feel as if we are living a blur. Not only do we feel that we are moving at a fast-forward pace, but we find ourselves frustrated by the absence of leisure time despite all the conveniences the modern world offers us. Gleick makes the point that people deal more with the perception of time than with the reality of it. "Time is defined, analyzed, measured, and even constructed by humans. . . . [T]ime is not a thing you have lost. It is not a thing you have ever had. It is what you live in. You can drift in its currents, or you can swim." For the software industry, where development cycles are shrinking every quarter and distribution has moved from the retail store to instant downloading from the Internet, life is also accelerating. Gleick's primary focus, however, is on how people

try to bring perception in line with reality. Time needs to be managed to reflect the kind of life you want to live.

In *Faster,* Gleick makes the argument that people are trying to accomplish more and more in the same amount of time through a variety of means. He makes his case by devoting entire chapters to seemingly endless examples of multitasking, rapid task-switching, and parallel processing—methods of accelerating our lives—and he discusses some of the consequences of those actions. For example, multitasking assumes a level of efficiency. How many of us can engage in a telephone conversation and respond to an electronic-mail message simultaneously? Closely aligned with multitasking is information flow. Gleick notes that as an information flow accelerates, it becomes more difficult to track. For instance, how do we distinguish between relevant and irrelevant information? Perhaps intuition and experience take over. Gleick also discusses speed, reminding us of the slogan, "Speed is God, and time is the devil."

Gleick observes that as we move through life, we are constrained by time. How long will it take you to read this review and move on to another? Too long? Perhaps a speed-reading course is in order! One of the main shortfalls of the book is that the author fails to recommend the best way to manage our time. How do we find equilibrium between our personal lifetime goals and the curves thrown at us by an uncertain world?

Gleick's observations are relevant to current directions in naval planning. For the U.S. Navy, speed is a critical advantage when responding to crises. The Navy also holds that the faster you are able to make decisions or deploy your forces, the better tactical decisions you are likely to make. But what are the trade-offs? Recently, the U.S. Navy embarked on the development of a new concept that promises a better way to integrate its various platforms.

Known as network-centric warfare, it is meant to provide a comprehensive approach to warfighting in the twenty-first century. Concepts like the speed of command and an integrated situational picture theoretically will allow senior commanders to reach better conclusions based on complete and timely data regarding battlefield conditions. Intervals of time will not change, but senior commanders will feel as if they are being squeezed even more than usual under time-sensitive or stressful conditions. Can the human mind take advantage of a networked community of information in real time? Will the pace of battle or the challenges of a military campaign be less stressful in an integrated environment? Can military commanders

manage their time "better" under stressful conditions given this complex architecture? How can military commanders manage their time as the pace of events or the quality of their situational awareness increases?

Unfortunately, Gleick only hints at the directions that must be taken to answer these questions. Time feels increasingly precious as more demands are placed upon us, even when more relevant information is provided. Experience teaches us how to sort the most important data, but will experience continue to serve us as we are forced to sort through exponentially larger amounts of information? Or is there some limit to our ability to accomplish goals within a finite period? Gleick does not tell us; perhaps time will.

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